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The King's Cup Race

FOR the fourteenth time a number of aeroplanes, probably twenty, will compete on Saturday for what has, unfortunately, become the only great annual British air race: that for the cup presented by His Majesty the King. The history of the King's Cup Air Race, the outstanding features of which are chronicled in this issue of *Flight*, has been somewhat curious. This year an attempt has been made to combine the better features of previous years' races by having an eliminating trial in the form of a "Circuit of Britain" (which was the type of race the King's Cup was originally intended to replace), and an actual race or Final over a short course.

Everyone will admit willingly that the Royal Aero Club has had a difficult task. After almost every one of the thirteen King's Cup races it has been "shot at," but of really helpful suggestions there have been singularly few. The idea of formula racing to "improve the breed" was suggested and tried twice. As tried it was a failure. It may be revived. In fact, the Royal Aero Club has indicated that a formula may be chosen and submitted to discussion before the next race regulations are drawn up.

This year's eliminating course takes the place of the Circuit of Britain races of previous years, while the Final is to be flown over a short course, the machines rounding the Hatfield turning point repeatedly during the race, thereby providing the spectacular feature of the race.

It may well be that ultimately it will be necessary to disregard altogether the public appeal—which in any case has never been very great—and to concentrate entirely on "improving the breed." Two great difficulties are encountered in aiming at this: A formula which encourages useful features and discourages "freaks" is not too easy to evolve. The formulae of previous years have tended to encourage wing span. This in

itself is logical, as span is a useful feature. Speed for a given power, taking into account the cubic space provided for the occupants, would be another way of encouraging a useful type of aircraft. But whichever feature a handicap formula encourages, its use has the drawback that it presupposes the building of machines specially for the races, and it is a question whether or not manufacturers will go to the expense of doing this. Unless the formula encourages a *practical* type, they certainly will not.

The apparently simple regulation which admits the fastest ten machines from each class into the final of this year's race is open to criticism on the score that it unduly favours the faster machines in each class. This fact is obvious, and is even harder on the slower types than appears on the surface.

Cumulative Preference

Among the nineteen machines in the low-power class (engines not exceeding 150 h.p.) the first four machines in the order of speed are a Comper Streak, a Hawk Major Mark 5, a Comper Swift, and the T.K.2. These machines are evidently judged by the handicappers to be a good deal faster than the rest of the class. They will, therefore, be able to "nurse" their engines, while the assortment of Hawk Majors and Hawk Trainers will have to run pretty well "all out" to have a chance of getting into the race at all. As for the Leopard Moths and lower-power Gulls, they would appear to have little chance unless several of the faster machines break down or fall out of the race.

The position is even more unfavourable for the slower machines than the mere speeds indicate. The fact that a machine at the high-speed end of the scale can fly throttled not only makes the likelihood of engine trouble more remote, but gives it an advantage in range. Machines farther down the speed scale not only have to fly nearly "all out" to be among the first ten, but in doing this their fuel consumption goes up and they may have to refuel two or even three times, thus

losing valuable time which, be it noted, counts as flying time.

In the high-speed class the position is even worse, because the gap in speed is more pronounced. For example, according to the speeds which, apparently, the handicappers estimate for the course of the final, and which would naturally be quite different for a point-to-point course, there is a difference of 66 miles per hour between Captain Percival's Mew Gull and Mr. Tweddle's Avian. If one goes down the list it is found that the fastest ten just include the Gulls, and that unless the Falcons exceed their handicap speeds by much more than do the Gulls, they will have little chance, while the slowest three in the class appear to be right out of the running.

As always in a race in which slow machines compete with fast ones, strong adverse winds have a greater percentage effect on the slow than on the fast machines, and this may add to the seriousness of this artificially introduced handicap.

New A.A.F. Squadrons

IF the value of each form of fighting unit could be expressed by an algebraical formula $x \div y$, in which x equalled degree of efficiency and y represented the cost, in all probability a squadron of the Auxiliary Air Force would be found to give the best value for

money. It is, therefore, very satisfactory to learn that the Air Ministry has decided to raise three more A.A.F. squadrons.

As was to be expected, all three are to be raised in the North. Yorkshire already possessed a North Riding squadron, and now will add a West Riding squadron. It is surprising that Lancashire, with its fine record in civil flying, did not long ago demand the right to raise an A.A.F. unit, but "better late than never," and Liverpool is to be the centre of a West Lancashire squadron. The Red Rose has not caught up the White Rose, but it has made a start. Before the Wars of the Roses brought Yorkshire and Lancashire into prominence King Richard II (of Bordeaux) had a bodyguard of Cheshire archers, and so that county has a reputation for fighting men dating from medieval times. We feel sure that the County of Cheshire A.A.F. squadron will be worthy of its forbears.

All three new squadrons are to be bombers, and presumably will be equipped with Harts. A good deal can be said for using A.A.F. units as fighters. The three London squadrons have been converted from bombers to fighters. Though recruiting has been brisk enough for the bombers, there would probably be still greater enthusiasm for joining a squadron whose duty is to defend our hearths and homes. The Demon is no harder to fly than the Hart, and fighter tactics are not beyond the powers of A.A.F. pilots.



THE STAGE IS SET. Hatfield Aerodrome, Hertfordshire, the rendezvous of aerial sportsmen on Friday and Saturday. It is the new (and ultra-modern) home of the De Havilland Aircraft Company, the London Aeroplane Club and the R.A.F. Flying Club. (*Flight* photograph.)

The Outlook

A Running Commentary on Air Topics

Racing Aero Engines

HOW often does the average air race spectator give thought to the engines? The pilot and his aeroplane are discussed, but generally his engine is taken for granted. It is expected to do its job, and is merely considered as part of the aircraft.

This has really come about because the engines of to-day are so reliable that they *can* almost be taken for granted. Consider their position in a race such as the King's Cup; nearly 1,000 miles on the first day alone, and all of it at full throttle, more often than not at the r.p.m. which the engine manufacturer recommends for five minutes only, except in an emergency! Nevertheless, engine failures are almost unknown. It has often happened that there has not been a single case of genuine engine failure in a King's Cup Race; can it be said that the engines of any other form of transport would stand up as well? We doubt it.

Tests Tell

PEOPLE often grumble at the price they have to pay for engines, and they have been heard to blame the Air Ministry's system of Type Tests. They would do well to ponder on the above notes and to think of the state flying would be in if this amazing reliability had not been achieved. If there were similar tests for human machines then there would be no grumbling, because we should all be well-nigh perfect . . . no indigestion or migrains. The cynic will say: Thank heaven we are not!

A Word of Warning

WE have always championed the ultra-light aeroplane as a means, entirely admirable, of getting people into the air. Recently there has been, in many sections of the daily Press, a spate of ill-considered propaganda on behalf of such aeroplanes. In its most pernicious form this uninformed boosting attempts to give the impression that not only will people be able to learn to fly in a very short space of time, but that the pilots thus created will form a reserve on which the Government could call to augment the Royal Air Force in case of emergency.

Such statements require considerable qualification. Undoubtedly it is possible to learn to fly some of the ultra-light aeroplanes in a shorter time than is required in higher-powered types; but that is only the beginning of learning to be a pilot. It is an old saying at the better flying schools that a man who has obtained his "A" licence has only just started to learn to fly. Even more so does that saying apply to him who has learnt in ultra-light machines. When he is capable of flying the machine safely he has to begin to learn air-sense and what to do in emergencies of all kinds if he is to avoid being a danger to others both in the air and on the ground.

To those about to learn we would say, "By all means, go ahead, the sooner the better, but do remember that piloting a machine safely around an aerodrome is only the very beginning of learning to be a pilot."

And as a Reserve

LIGHT aeroplane pilots are almost as far removed from being R.A.F. pilots as is the man who sails a dinghy from the skipper of a windjammer. The fact that a man has flown will certainly serve as a useful introduction, and help him a very great deal if he joins the R.A.F.,

but he will probably find that he has to forget much of what he has learnt before he becomes of value to that service; so much so that we doubt whether ultra-light-aeroplane pilots would be considered any better material for the R.A.F. in case of war, except in special cases of great experience, than would men who had never flown at all.

Real Value

NO, the real value of ultra-light aeroplanes lies in the opportunity they offer of getting people into the air—people who would not otherwise be there, perhaps because they cannot afford to fly in other types, or perhaps because (and this applies more often than is generally realised) the normal aeroplane looks too large, noisy and frightening to them.

The more people we get into the air the better. The sooner that flying—in any kind of craft—is looked upon as so ordinary that it ceases to be cause for comment, the sooner shall we be able to feel that the industry is established.

For this reason we heartily endorse every genuine effort to further the cause of the ultra-light aeroplane.

A Stepping Stone

FURTHERMORE, thinking aeroplane manufacturers, will welcome the advent, on a firm basis, of the ultra-light machine, because there can be little doubt that it will serve as a stepping stone to their higher-powered products. In any form of transport a very cheap vehicle attracts potential customers for larger, more expensive types—customers who in most cases would never have taken the plunge and become customers if the light, cheap vehicle had not, because of its lightness and cheapness, proved in the first place an irresistible bait. Thousands of people who could not otherwise afford to own a car stretch their purses to acquire a seven or eight horsepower model, and once having tasted the joys of motoring, progress to an eventual stretching of their purses still more to obtain a larger and more comfortable vehicle. In just such a manner will ultra-light aircraft increase the sales of larger types.

The Dawn Express

SINCE mankind took to living in houses and to sleeping in beds it has been left to poets and philosophers to rhapsodise on the joys of being up and about in the very early morning. Honest persons have occasionally and laboriously worked out the number of hours of daylight that are slumbered away annually by the short-sighted, but things remain as they always were.

Now there is a real incentive for pre-dawn uprisings, since it is possible to travel by air to Paris on a regular early morning service starting one hour before dawn. That arbitrary hour is fixed by nature inasmuch as direction finding by night or at the rising and setting of the sun is nothing if not inaccurate. The pilots on the newspaper service naturally prefer to arrive in the Le Bourget area at a moment when D/F can be depended upon.

This service, details of which were given in *Flight* recently, goes a long way towards combating the general public's most serious criticism—that night travelling is not possible, and that the normal surface transport arrangements are planned to work both by night and by day. In due course night flying will be as common as daylight flying, but in the meantime the things of the earth crawl onwards—and take up valuable time.

Pilots and Machines in Britain's Big Annual Air Speed Contest : Great Predominance of Low-wing Monoplanes and Cabin Types : Old and New Hands Among the Competitors

TO-MORROW (Friday) and Saturday, September 6 and 7, the fourteenth King's Cup Air Race takes place, starting and finishing at the De Havilland Aerodrome at Hatfield, twenty-two miles north of London. On the Friday, as explained in the guide on pages 251-253, an Eliminating Contest takes place over a 953-mile course, which passes over England, Scotland, and Wales, and touches Northern Ireland; on the Saturday those machines which have qualified will take part in the Final, which will be flown over seven laps of a triangular fifty-mile course—Hatfield-Broxbourne-Henlow-Hatfield.

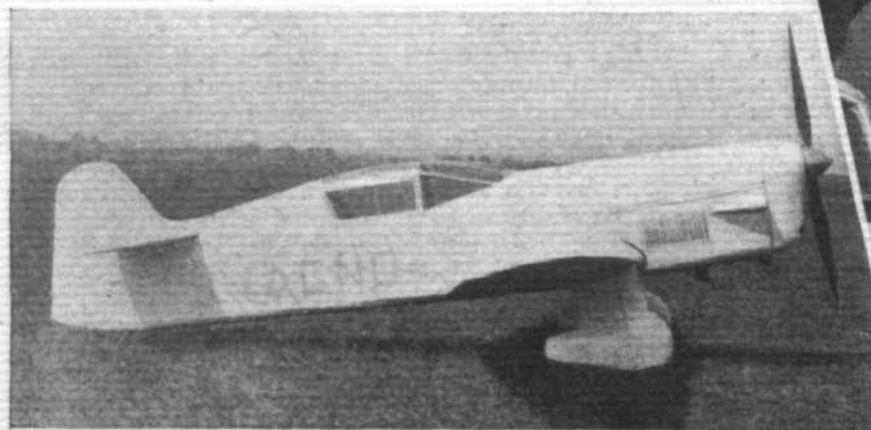
Thirty-six entries (less three non-starters already announced) have been received, and this year, as a study of the entries given on p. 252 will show, standard types predominate in the entry list. Only four machines can be said to be making their public debut in the race; and of these one, at least, is a doubtful starter, the D.H.90, racing No. 4, being rumoured as unlikely to appear on the line. Other new types are the Miles Hawk M.5, the D.H. Technical School T.K.2, and the B.A. Cupid 3. The D.H. Comet, on which Mr. Campbell Black is to make some long-distance flights, is now announced as a definite non-starter.

Perhaps the most interesting feature of the entry list is the number of low-wing monoplanes. Out of the total of 36, 30 are low-wing machines, thirteen being designed by Mr. F. G. Miles, of Phillips and Powis Aircraft, Ltd., and eight by Capt. E. W. Percival, of Percival Aircraft, Ltd. Only two are biplanes, the D.H.90, and the well-raced Avro Avian entry of Mr. A. H. Tweddle; the remaining four are high-wing monoplanes—two Comper Swifts and two D.H. Leopard Moths.

Another most interesting point is the preponderance of cabin machines in the entry list—no fewer than twenty of the pilots will be covered in. There is little doubt that since the outlook from cockpits has been improved so greatly, racing pilots are finding that the comfort of the closed cockpit, and the advantage of being able to spread out maps without them blowing away, enhance human efficiency in a race a considerable amount. Furthermore, there is less strain in a cabin machine than in an open one when the weather is bad, because, although in open machines it may be easier for the pilot to see out unimpeded by glass covered with rain, he has to combat rain on his face and the fatigue due to the battering from the slipstream.

The Royal Entry

Entered by the Duke of Kent, as in last year's race, and

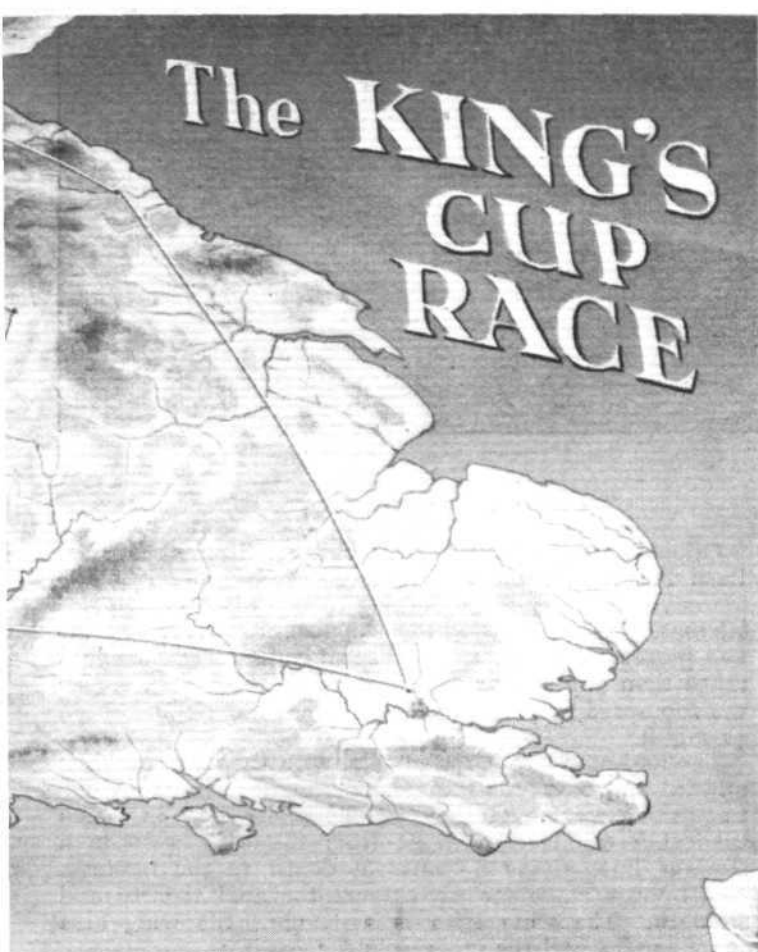


Entered by the Duke of Kent : No. 2, the Percival Mew Gull (Gipsy Six).
(Right) Captain Edgar W. Percival.



flown by Capt. E. W. Percival, the Percival Mew Gull differs only in minor details. It was shown in its present form at the S.B.A.C. display last July with the redesigned rudder and tail units and the fuselage slightly lengthened. This diminutive low-wing cabin monoplane should, with the Gipsy Six engine, probably prove to be second to none in the matter of speed, and the landing speed is kept low



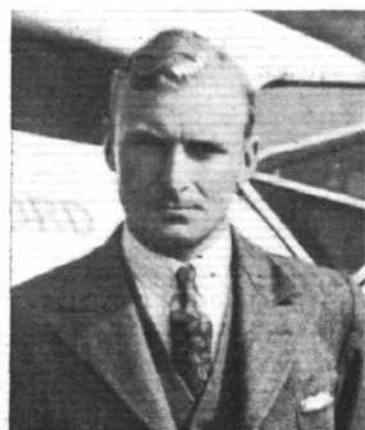


Percival designed the Gull to take either of these engines, so that outwardly there is almost nothing by which to distinguish between them. A cabin door opening sideways to allow easy access, flaps to steepen the glide and reduce the landing speed, and clean undercarriages of almost pure cantilever type are among the modern features of the 1935 models.

Rumour credits some of the Gulls with a top speed of somewhere near 180 m.p.h.; if this is substantiated, then they should have a nice margin in hand over their handicap. The span is 36ft. and the loaded weight 2,300 lb.



No. 11, K. F. H. Waller.
(Right) No. 31, C. J. Melrose.



No. 12, T. W. Morton.



No. 10, C. E. Gardner.



No. 14, S. L. Turner.

THE PERCIVAL GULL ENTRIES. The accompanying portraits are of pilots who will fly Gulls, with Gipsy Six, Cirrus Major I or Gipsy Major engines.



No. 13, S. W. Sparkes.



No. 26, Flt. Lt. E. T. C. Edwardes.

by the use of flaps.

In July this actual machine, but with a Regnier engine and Ratier C.P. airscrew, won the Coupe Armand Esders, a French race from Deauville to Cannes and back, at 188 m.p.h. Its top speed with the Gipsy

Six engine is reported to be 215 m.p.h. In the King's Cup race a controllable pitch airscrew will not be used.

Also from the Percival stable are seven Percival Gulls. These will probably differ from standard in small details where the owners fit gadgets of their own liking, but in general they are all the 1935 type of three-seater low-wing cabin Gull. Those bearing racing Nos. 10, 11, 12, 13, and 14 have Gipsy Six engines; No. 31 has the Gipsy Major and No. 26 the Cirrus Major. From the very first Capt.

(Right) The Hendy Heck (Gipsy Six), now reported to be withdrawn.



No. 3, Flt. Lt. R. Duncanson, seated in the Hendy Heck. (*Flight* photographs.)



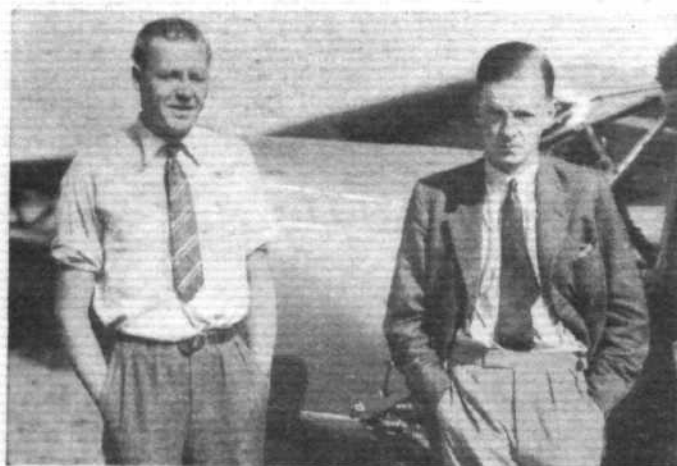
Hendy's Hope

Originally designed for Mr. Whitney Straight by Mr. Basil Henderson, the Hendy Heck is the only machine to have Handley-Page leading-edge slots and slotted ailerons. This interesting low-wing cabin monoplane seats two persons in tandem, and probably has a wider speed range than any similar type. With the Gipsy Six engine the top speed is about 180 m.p.h. and the stalling speed 40 m.p.h.

The undercarriage is retractable, with the wheels folding upward and outwards into recesses in the wings. A distinguishing feature of the machine is the way in which the cabin top is carried aft from the windscreen in a straight line, giving an unusual depth to the fuselage, which must make for exceptional torsional rigidity and strength. The wing span is 31ft. 6in., the wing area 105.2 sq. ft., and the gross weight 2,400lb.

Hatfield's Handicraft

Much disappointment will be felt that the new D.H. 90 is not ready for the race. A King's Cup Race without a new D.H. type will seem all wrong. The parentage of the D.H. 90 would appear to be by a Comet out of a Dragon Rapide. The cabin is arranged for five people, with the pilot sitting alone in front. A courageous move is the use of wire bracing in the front outer bay of each wing cellule only; in fact, there is probably less bracing in this biplane than ever seen before. Another feature of note is the use, for the first time since the experimental machine built for the Aerial Derby in 1919, of wings of unequal span. The fuselage is of plywood and spruce.



Capt. de Havilland's sons, Geoffrey and Peter, who were to have flown the new D.H. 90 (below), which has been scratched at the last moment. (*Flight* photographs.)



The experimental D.H. 90 (two Gipsy Majors), unfortunately scratched. It is the first D.H. biplane to appear with an unequal span since the experimental Airco 4R machine built for the Aerial Derby of 1919.



A Typical Leopard Moth: Two are in the race—No. 35, flown by W. Gairdner (top right), who is partnered by J. Barbour; and No. 34, in the hands of Sir Derwent Hall-Caine (below). (*Flight* photographs.)

The type is still looked upon as experimental, and there is no intention of putting it into production until it has been thoroughly tested out.

Two D.H. Leopard Moths have been entered, Nos. 34 and 35. That of Sir Derwent Hall-Caine, G-ACHC, is racing for the third year in succession. It will be remembered that a machine of this type in the hands of its designer, Capt. Geoffrey de Havilland, won the race in the year 1933.



Reading's Racers

From Reading comes the largest entry of any one class. Three machines are Miles Hawk Speed Sixes. These are virtually Hawks with a Gipsy Six engine and only one cockpit. The type was in the race last year in the hands of Sir Charles Rose; the identical machine is being flown by Mr. W. Humble this year. The machine entered by Miss Slow (alias Miss R. Fontes) has a high-compression engine, but is otherwise the same as the other two. With the cockpit covered by a small coupé top, the machine is admirable for those who wish to get about quickly on business, but want the advantage of an open machine with a cockpit which can be closed at will.

The Miles Hawk M.5, which will be flown by its designer, is a standard Hawk with wings of smaller span, the centre section being only the width of the fuselage and the undercarriage legs



No. 7, Miss R. Fontes (Hawk Speed Six Mk. II), who hides under the alias of "Miss Slow."



"Miss Slow's" brother, Luis Fontes, of car-racing fame, who is also to fly one of the new Miles Hawk Speed Sixes. He is handicapped as third fastest competitor.



The Miles Hawk Speed Six (Gipsy Six) which will be flown by W. Humble. (*Flight* photograph.)



being attached somewhat farther out than before. The width of the fuselage has been decreased slightly, and the Gipsy Major engine is of the high-compression type. At present only experimental, it should, if put into production, appeal to those people who are content with an open two-seater cockpit machine which, with an engine of low power, has a performance considerably above the average.

Of the seven Hawk Majors—treating the Majors and Trainers as one class because they differ only in interior fittings—one (No. 22) has a high-compression engine, four have Gipsy Major standard engines, and two have Cirrus Major engines. These vary but little from each other and only in minor details.

The two Miles Falcons both have Gipsy Six engines and, except for stub exhausts and a few other racing concessions, these four-seater cabin machines will be racing in standard trim. The Falcon is probably the fastest standard four-seater at present on the market. The span of the standard Hawk is 33ft., the wing area 160 sq. ft., and the gross weight 1,800lb.

Consistent Compers

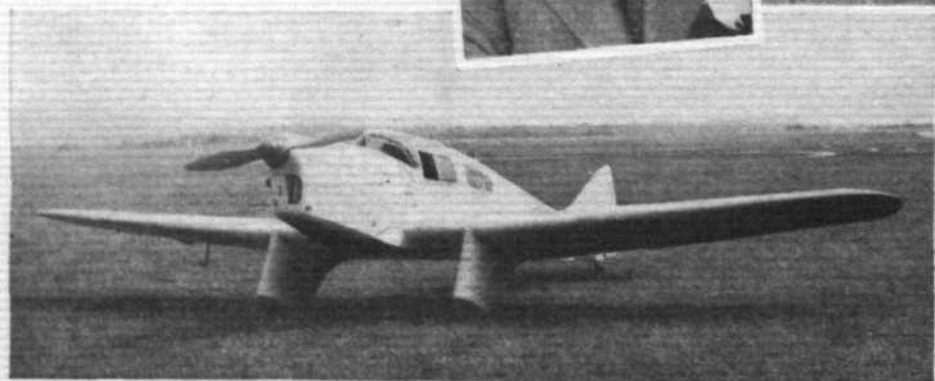
Comper aircraft in the race are one Streak and two Swifts; all three raced last year or the year before. The Streak is a single-seated low-wing machine with a retractable undercarriage, and first came before the public



No. 9, F. G. Miles. Above is a view of the Hawk M.5, of which he is both designer and pilot.

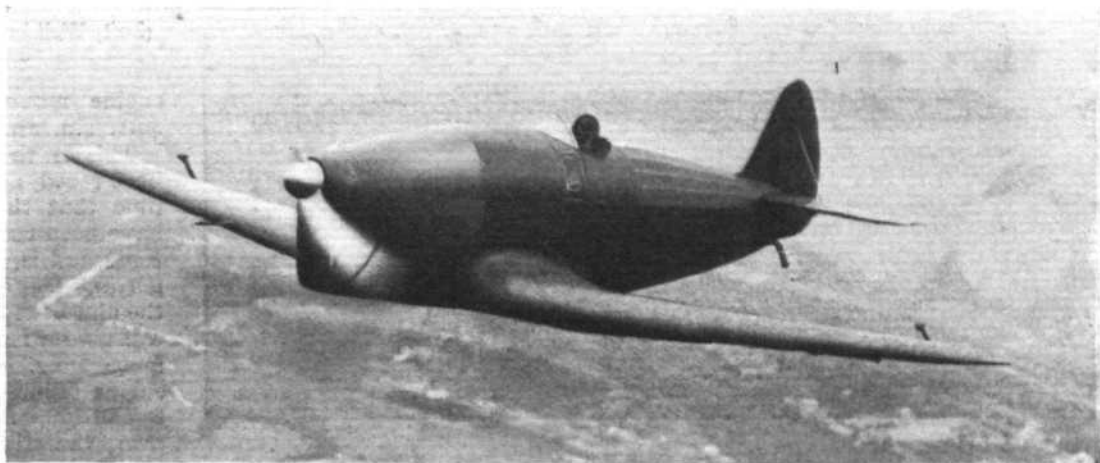


READING'S
BID



Comfortable and fast, the Miles Falcon (Gipsy Six) should give a good account of itself. Pilots: Above are S. Harris (left) and L. Lipton, who are flying No. 15, and on the right is Filt. Lt. T. Rose, flying No. 16, an entry by Lady Wakefield.

This Comper Streak, which has a retractable undercarriage, may be the fastest machine in its class. It is to be flown by P. de W. Avery (No. 8).



(Below) A Reading typewell represented — the Hawk Major; seven of these machines—two of which, differing from the others in internal fittings, are more accurately described as Hawk Trainers—are taking part.



No. 23, F. D. Bradbrooke (Hawk).



Nos. 22 and 24, A. H. Cook and A. Henshaw, both on Hawks.



No. 32, O. Cathcart Jones (Hawk).



No. 29, Mrs. Battye (Hawk).



No. 33, H. R. A. Edwards (Hawk).



No. 28, A. C. W. Norman (Hawk).

particularly from winds at high altitudes, so that in Friday's eliminating race, at any rate, he can be looked upon as one of those who are likely to arrive home amongst the first ten in his class. He will also probably be looked upon as the dark horse of the race, for his runaway win at Brooklands in 1932 is still comparatively green in most people's memories.

Both pilots are well up in their class and are, therefore, fairly certain to be in the final, that is, unless they fall by the wayside or bad weather forces them down—

which in their case is unlikely.

Monospar's Marque

Last year the race was won by a Monospar S.T.10. Much interest was shown on that occasion because not only was it the first time a two-engined machine had won, but also the new design of cabin front had increased the speed, so that the pilot had a comfortable margin over his handicap allowance.

This year a model, the S.T.12, using two high-compression Gipsy Major engines, is the only Monospar entry. The machine is basically the same as the lower-powered model. The cabin is arranged for four people, and the two-engined layout, with the monospar wing, allows the pilot an unusually good outlook. This feature makes a machine of this type particularly pleasant to fly when the weather is bad and the visibility poor, an important point when racing. The S.T.12 does not have a retractable undercarriage as do some of the Monospar machines, but the undercarriage legs are neatly faired in directly below each

when its designer, Flt. Lt. N. Comper, took it over to France for the Coupe Deutsch last year. Both the two Swifts have Gipsy III engines. These little high-wing, single-seat monoplanes were, with these engines, also originally built for racing. One of them, No. 21, flown this year by Mr. R. O. Shuttleworth, was once entered by the Prince of Wales for this same race. The other, No. 20, is now the property of Capt. W. L. Hope, who has won the race on no fewer than three occasions. He has the knack of beating the handicapper by cleaning up his machines himself so that they are faster than they look. Capt. Hope has already raced this particular machine, and no one will be surprised if he has found a way to add to its speed to a considerable extent. He knows as well as anyone, and better than most, how to gain the greatest advantage from weather conditions,



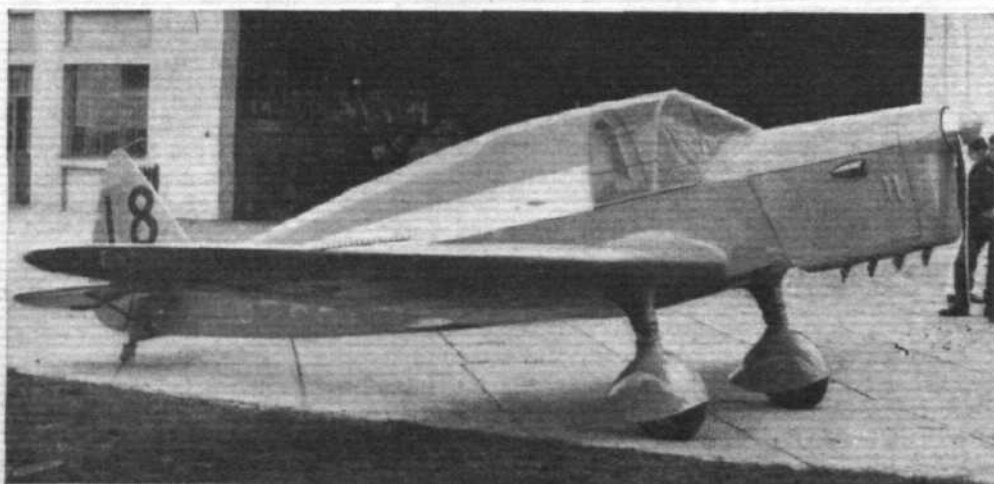
(Left) Well known at races are the Comper Swifts (Gipsy III).



No. 20, Capt. W. L. Hope, and No. 21, R. O. Shuttleworth, are both flying Swifts.



The only entry of its type, the Monospar S.T.12 (two Gipsy Majors), may carry on the tradition of last year's winner. The pilot is O. G. E. Roberts.



As Lord Wakefield's entry, the T.K.2, designed and built by the De Havilland Technical School, will certainly be a centre of interest.

engine mounting. The wing span is 40ft. 2in. and the wing area 217 sq. ft.

This is the first time an S.T.12 has been raced, and, for that matter, the first time that the high-compression engines have been used in it. An unusually high top speed is, however, not the most important feature of the type; rather has the aim been to produce a machine which will give a really superb performance on one engine, so that in the event of an engine failure there need be no necessity for an immediate forced landing. Moreover, the climb is truly outstanding, so that a take-off over high obstacles presents no difficulties.

Students' Special

All the hopes of the D.H. Technical School will be pinned on Capt. Hubert Broad, the De Havilland test pilot, who is flying the T.K.2, a machine which the students have built themselves. Being a low-wing monoplane with a rather narrow fuselage, it looks fast, and the high-compression Gipsy Major engine should certainly give it a fine turn of speed. For the race the fuselage is arranged to carry only one person, but for general use the space behind the pilot, which on this occasion holds an extra fuel tank, is the cockpit for a passenger.

The T.K.2 is the second machine which this technical school has produced. Last year Mr. Langley designed, and the students built, the T.K.1, a biplane of fairly high performance, and this year's machine is a distinct advance both in design and construction. The former machine can be looked upon as a training type suitable for club flying, while the T.K.2 is more suitable for the private owner who wishes to get about quickly.

The undercarriage is cantilever, as the wheels are carried on single telescopic struts which are faired in with metal



No. 18, Capt. Hubert Broad, pilot of the T.K.2.



No. 19, Sir Charles Rose, flying the Airspeed Courier with a Lynx IVc engine, the largest and most powerful in the race.

cowlings so that they offer very little resistance. The two wing spars are braced together by both the top and bottom plywood coverings between them and by diagonal drag bracing members. They thus form a box which makes the wing very rigid. The wing span is 32ft., the wing area 125 sq. ft., and the gross weight 1,600 lb. The race will be the first public appearance of the T.K.2.

Portsmouth's Pride

Machines from the Airspeed factory at Portsmouth have come to be known as some of our fastest commercial types. The Courier, No. 19 in the race, with a Lynx IVc engine, is representative of one of the first makes in this country to have a retractable undercarriage. The wheels fold upwards and backwards leaving, when in the fully retracted position, a portion of their diameter exposed. This has been arranged so that landings can be made with the wheels up should it be necessary to alight on very soft ground, where there would otherwise be a danger of the machine going up on its nose.

The cabin is unusually large and light and has accommodation, according to the tastes of the owner, for four or six people. It was a machine of this type which Sir Alan Cobham and Wing. Com. Helmore flew non-stop to Malta.

A feature not often found in machines which have a speed of over 160 m.p.h. is fabric-covered wings, but in the Courier it has proved perfectly satisfactory and results

in a light machine with a consequent large pay-load. The wing span is 47ft., gross weight 3,900 lb., and the wing area 258 sq. ft.

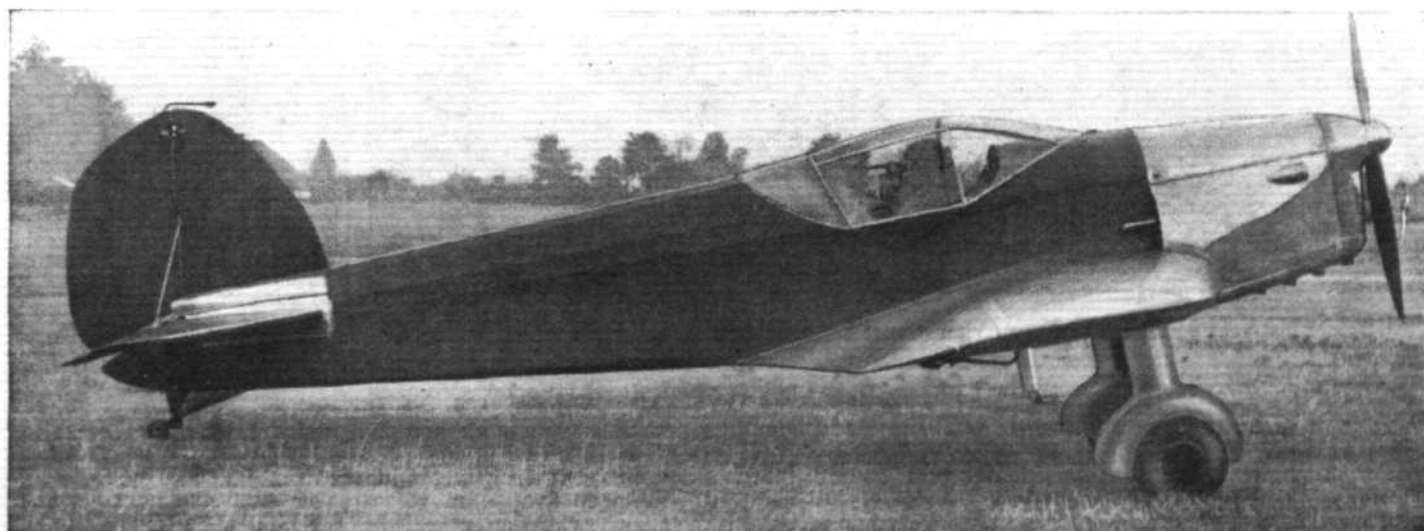
B.A.'s Best

Little has so far been announced about the B.A. Cupid. This machine comes from the Hanworth works of the British Aircraft Manufacturing Company and is a low-wing cabin machine with fixed undercarriage and seating for two persons side by side. It is quite new and has not yet been shown in public. The construction appears to be not unlike that of the other B.A. machines, and the Cupid looks rather like a two-seater side-by-side version of the three-seat B.A. Eagle, but without the retractable undercarriage of the latter.

With a Gipsy Major engine it may well prove faster than the Eagles, of which there are two in the race, and which use the same engine. Last year Mr. Irwin, No. 30 in this year's race, was racing the same Eagle G-ACPU, but this year his Gipsy Six engine is replaced by a Gipsy Major. His speed will therefore



No. 25, J. Armour (B.A. Cupid).



The performance of the B.A. Cupid, a machine which is new and experimental, is eagerly awaited.



A delightful type for private owners—the B.A. Eagle (Gipsy Major).



Two Eagle pilots: No. 30, A. C. W. Irwin, and No. 27, Flt. Lt. J. B. Wilson.

be lower than before, but even allowing for that fact he may prove to have been somewhat lightly treated by the handicappers.

Since its first appearance the rudder and tail units of the Eagle have been slightly redesigned, and in its present form the machine is being spoken of as particularly

pleasant to fly. The retractable undercarriage is of the simplest type and has proved entirely trouble-free from the beginning. The span of the wing is 39ft. 3in., the wing area 200 sq. ft., and the gross weight 2,300 lb.

An Ageless Avian

Last on the list is an Avro Avian with a seven-cylinder Genet Major engine. This Avian has been raced a great deal since the time when it was first built and specially streamlined for its original owner, Mr. A. J. A. Wallace Barr, the managing director of Cellon, Ltd. In those days, in the hands of Mr. J. Cantrill, it was always a good advertisement for its company's dope and finishes and, though a well-tryed veteran, it is still capable of 126 m.p.h., as was shown when Mr. Tweddle raced it at Lympne two weeks ago. Attention to the engine has resulted, according to rumours, in a top speed substantially higher than before, so that Mr. Tweddle's Lympne time may be bettered in the King's Cup. He will, in fact, have to find many miles an hour more if he is to get into the final, as he is in class B—engines giving more than 150 m.p.h.—and the slowest in the class.



Before last year's race: The Avro Avian (Genet Major), which is being flown this year by No. 36, A. H. Tweddle (right).

THE INDUSTRY IN RUSSIA

According to the Economical Review of the Soviet Union, prior to 1928 aviation in Soviet Russia depended largely on foreign aeroplanes and engines, whereas at the present time practically all the machines in service on Soviet air lines are of Russian manufacture. The production of engines, both air- and water-cooled, has been organised, and motors of up to 700 h.p. are now being built in Soviet works. Numerous

types of modern craft for civil and defensive uses are also now manufactured in the country. Considerable progress has been made in designing and constructing new types, e.g., the all-metal five-motor, 36-passenger ANT-4 monoplane, and the all-steel electrically-welded Stal-2, Stal-3, Stal-5 and Stal-6.

Research and experimental work is carried on at three centres.

THE FOUR WINDS

ITEMS OF INTEREST FROM ALL QUARTERS

The "Lieutenant" to Fly Atlantic

In all probability the big Latécoère flying boat *Lieutenant de Vaisseau Paris* will attempt a Transatlantic flight to the U.S.A. before December 15.

Official Recognition

By announcing that eight cadets from a military academy, who had been commissioned as lieutenants, would be appointed to the flying corps, Austria has officially made known the existence of her Air Force.

Taking the Broad View

From 30,000ft. a new ten-lens Fairchild aerial camera will take an octagonal composite picture covering an area of 760 sq. miles. Without its film magazine this photographic phenomenon turns the scale at 275lb.

Perpetuating a Name

The construction of the £2,500,000 aircraft carrier *Ark Royal* will be started at Cammell Laird's Birkenhead yard early next month. A large portion of the hull will be electrically welded, and accommodation will be provided for at least sixty aircraft.



TRYING IT ON THE DESOUTTER. This is the brand new inverted six-cylinder "V" Monarch engine installed in a modified Desoutter for test purposes. The engine, which will be developed by Aero Engines Ltd., delivers 150 h.p. and weighs about 340 lb.

A Diverging Drop

A pair of Soviet girl parachutists recently jumped together at about 26,000 ft., without oxygen equipment, passed through three layers of clouds and touched down 2½ miles apart.

Off the Ice

A Fairchild cabin monoplane, the *Stars and Stripes*, which was the first aeroplane to fly over the Arctic, and which was used by the second Byrd expedition after it had been buried for five years in Antarctic ice, is soon to be flown round the world by Mr. Alton H. Walker, of Kansas City.

Early Tragedy

At the start of the trans-continental Bendix Trophy race from Burbank, California, to Cleveland, the scene of the National Air Races, Mr. Cecil A. Allen crashed in a field in North Hollywood and was killed. Mr. Harold Neuman, flying Mr. Benny Howard's *Mr. Mulligan*, won the £1,000 Greve Trophy Air Race at the National Races at 207.29 m.p.h.

Algeria Bans the Pou

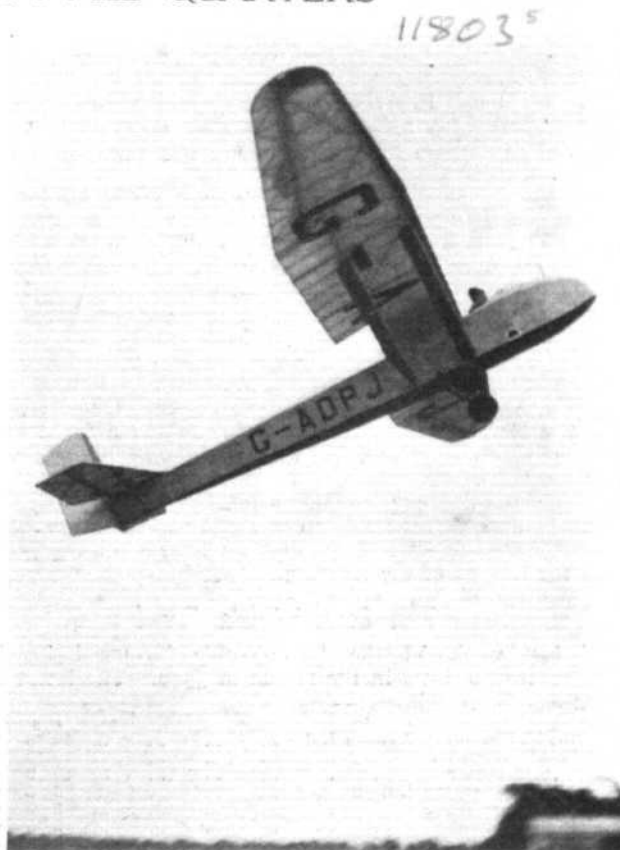
A fatal accident with a *Pou-du-Ciel* has led to the temporary prohibition by the Algerian Government of the flying of these machines.

Coincident Terminology

The Chinese find it difficult to pronounce the word "Boeing" when talking of the 247-D owned by Marshal Chang Hsueh-liang, but they can say "Bai Ying" which means "White Eagle," so everybody is happy.

An Anglo-Dutch Alliance

The Dutch Flying Corps has adopted the Koolhoven F.K.51 with Siddeley Cheetah V as its standard trainer. News has been received from Holland that Mr. Koolhoven has on the stocks a single- and a two-seater fighter, a twin-engined ten-seater commercial monoplane and a bomber of similar design, a four-seater cabin type and several trainers.



FRESH FROM THE HIVE. A greatly improved version of the B.A.C. Drone has been produced and is seen here in a spirited zoom at Hanworth. The wings are now arranged to fold and there is tankage for 5½ hours' fuel. Cruising and maximum speeds are respectively 60 m.p.h. and 70 m.p.h.

The Colonel's New Mount

A very-much-boosted Pratt and Whitney Twin Wasp fourteen-cylinder radial giving about 1,400 h.p. will be installed in Col. Roscoe Turner's new racing machine, with which he will attack the landplane speed record.

Twenty-five Years Ago

From "Flight" of Sept. 3, 1910.

"Brookins (in a Wright biplane) turned many circles in less than ten seconds each, and the banking angle to which the machine was brought was 45 deg. at least. I am told that he has turned a complete circle in less than seven seconds, but has been instructed not to do so until the strains involved have been accurately figured out."

Forthcoming Events

Club Secretaries and others are invited to send particulars of important fixtures for inclusion in the list.

Sept. 6-7. King's Cup Air Race. Start and Finish: Hatfield.

Sept. 14. Cinque Ports Club. Folkestone Aero Trophy Race.

Sept. 15. Gordon Bennett Balloon Race, Warsaw.

Sept. 21. London-Cardiff Race. Cardiff Aeroplane Club.

Sept. 28. Round the Isle of Wight Air Race and Portsmouth Air Trophy.

Oct. 12-28. International Aircraft Exhibition, Milan.

Nov. 29. Yorkshire Aeroplane Club. Annual Ball, Hotel Majestic, Harrogate.

HERE and THERE

Soaring at Sutton Bank : The Helen Boucher Cup Race : A New Cambridge Club

At Sutton Bank

GOOD soaring conditions were experienced on the fourth day of the B.G.A.'s annual meeting at Sutton Bank. Mr. J. C. Neilan (Yorkshire), who was flying the new gull-winged Kirby Kite, landed near Withernsea, having flown more than sixty miles; Mr. P. A. Wills (London and Yorkshire) reached 5,000ft. and Selby in Flt. Lt. Buxton's Hjordis; and Mr. C. Nicholson (London) made a flight of forty-eight miles to Cat-foss in the Rhonbussard II.

On August 29 Mr. H. J. Penrose, the Westland test pilot, tried out his Penrose Special and stayed up for an hour and a half. The day's competition—for a flight to Arncliffe Hall and back—was won by Mr. P. A. Wills, who had a disturbing few minutes when he lost height down to 150ft. and circled over forbidding heather and rock until he could obtain an up-current. Forty-four hours were flown during the day.

Rain fell steadily on the Friday, but at 7 p.m. Mr. J. Laver (Dorset) cruised about for fifteen minutes in a Falcon, and on Saturday conditions were very little better. However, on the last day Mr. Nicholson succeeded in making a flight of more than an hour's duration, but he was the only pilot to venture far from the site.

During the nine-day meeting a total of 133 hours was flown, which is more than half as much again as was flown last year.

Next week we hope to publish an article dealing generally with the lessons of the meeting.

The Lowe-Wylde Fund

BY last week-end the Lowe-Wylde Memorial Fund had reached a total in the region of £540. The latest list of donations is as follows:—

	£	s.	d.
British Continental Airways, Ltd.	10	10	0
Miss D. Reynolds	10	10	0
J. A. H. Parker	10	0	0
Aircrow Company, Ltd.	5	5	0
C. Grahame-White	5	5	0
R. F. T. Granger	5	5	0
Frank B. Halford	5	5	0
A. E. Guinness	5	0	0
L. A. Rumbold & Co., Ltd.	5	0	0
Chas. E. Gardner	3	3	0
John Grierson	3	0	0
Air Commerce, Ltd.	2	2	0
H. Hemming and Partners, Ltd.	2	2	0
Immediate Transportation Co., Ltd.	2	2	0
W. L. Hey	1	1	0
Captain A. G. Lamplugh	1	1	0
R. H. Mayo	1	1	0
Lt.-Col. H. W. S. Outram, C.B.E.	1	1	0
Mrs. E. M. Robinson	1	1	0
Lord Ronaldshay	1	1	0
Sir Charles Rose, Bt.	1	1	0
Mrs. E. M. Staniland	1	1	0
Flt. Lt. G. N. P. Stringer	1	1	0
Surrey Flying Services, Ltd.	1	1	0
P. W. Williams	1	0	0
Mr. Skeffington	1	0	0

Donations should be sent to Mr. E. C. Gordon England at the London Air Park, Feltham, Middlesex.

A Feminine Field Day

THE race for the Helen Boucher Cup, participation in which is limited to women pilots, was flown for the first time last Saturday. It was open to international entry, and started from the Bleriot aerodrome at Buc, just east of Versailles, the goal being at Cannes, 431 miles away.

Seven machines, ranging from Caudron Aiglons via Maillets, a Hawk Major flown by Mrs. Beatrice MacDonald, and a Caudron Simoun, to the big Breguet 27 (800 h.p. Mistral Major) of Maryse Hilz, were entered.

Notwithstanding doubtful weather conditions and threatening clouds, the contestants were started at one-minute intervals by M. Louis Hirschauer, the French Inspector-General of Civil Aviation, in the following order: Mme. Claire Roman (Maillet 21), Mme. Andree Dupeyron (Caudron Aiglons), Mlle. Jourjon (Maillet 20), Mlle. de Franqueville (Caudron Aiglons), Mrs. Beatrice MacDonald (Miles Hawk Major), Mme. de la Combe (Caudron Simoun), and Mlle. Hilz (Breguet 27).

The event was won by the last-mentioned machine at the excellent average of 183.30 m.p.h. Mlle. Hilz had climbed to about 20,000 ft. immediately after taking off, and found clear weather. Mme. Roman was second (157 m.p.h.), and third came Mrs. MacDonald with Mrs. Battye in the Hawk Major with an average of 132.5 m.p.h.

A University Flying Club

CAMBRIDGE UNIVERSITY is to have its own flying club next term. Flying will, of course, be carried out at Fen Ditton aerodrome, and the club will purchase "blocks" of flying hours from Marshall's School. The headquarters will be in London and a membership of about 200 is hoped for.

An Instrument-making Acquisition

SHORT AND MASON, LTD., the well-known instrument manufacturers, of Aneroid Works, Walthamstow, London, E.17, announce that they have acquired the old-established instrument making concern of S. and A. Calderara, formerly of Springfield Works, London. Mr. A. E. Calderara is becoming a member of the Short and Mason organisation.

Component Companies' Issues

ISSUES are announced on behalf of two component manufacturers well known in the aircraft industry. First, H. M. Hobson (Aircraft and Motor) Components, Ltd., is the title under which a company has been registered to take over the business of three existing concerns, H. M. Hobson, Ltd., Accuracy Works, Ltd., and Floats, Ltd.; and, secondly, underwriting is in progress for a public issue of shares in the Weyburn Engineering Co., Ltd.

A Week in Egypt

IN March, 1936, the Aero Club of Egypt will hold the third Egyptian International Aviation Meeting. Competitors who attended the last meeting in the winter of 1933-34 are sure to remember the pleasant experience offered of flying across the desert and landing at its oases.

Arrangements are being made to organise the next meeting on a much larger scale. It will consist chiefly of a flight round both the western and eastern deserts of Egypt. Competitors will have the opportunity of visiting the famous ancient monuments of Egypt at Luxor and Assuan, including the Tombs of the Kings.

The contest will be over a period of four days, and the programme includes the remarkable offer that two of the personnel of each competing aircraft will be the guests of the Aero Club of Egypt during six days, with full board in first-class hotels in Cairo, Luxor and Assuan.

The marking formula takes many factors into consideration, and is so devised as to give machines of widely different designs and characteristics good chances of winning some of the many valuable prizes offered. There are extra prizes for women pilots and other special prizes for the landing speed competition, which is the first of its kind.

Dr. Mustapha Abu Zahra, the representative of the Aero Club of Egypt, is now in London, and full particulars of the meeting can be obtained on application to The Royal Aero Club, 119, Piccadilly, London, W.1.

NEXT WEEK

NEXT week's issue of *Flight*, the special King's Cup Race Report Number, will contain a detailed description of both days' racing, profusely illustrated with photographs and sketches. In addition, the technical lessons of the race will be fully discussed, and there will be other features of unusual interest.

THURSDAY **FLIGHT** SEPTEMBER 12

FOR the ROYAL PRIZE

High Lights of the Past : Some Unsuccessful Formulæ, Unexpected Victories and Inspired Performances that Have Marked Thirteen Races for the King's Cup

Illustrated from "Flight" photographs.

RACING seems to foster the spirit of sportsmanship inherent in British pilots. The hectic Saturdays at pre-war Hendon and the early provincial meetings laid sound foundations for sporting flying in this country, and, since 1918, air racing has done much to alleviate the growing pains of adolescent aviation.

The Circuit of Britain Races and Aerial Derbies of pre-war days were the big annual flying events, and the public generated remarkable enthusiasm for them. Then for four years this budding sport of air racing was severely nipped, and when it was allowed to develop once more it was badly in need of the stimulus of patronage.



In 1919 the Aerial Derby was revived, being flown round Suburban London and proving an encouraging success, although attendance at the start at Hendon was not quite up to pre-war standards.

Similar events were staged in each of the following three years, but popularity seemed to wane with each race. In 1922 the Circuit of Britain was resurrected, the prize being a cup presented by His Majesty the King. Up to the time of the race the event had been generally known by the title already mentioned, but the heading of *Flight's* report on the contest described it as "The King's Cup Race."

The first race for the Cup was started from Croydon on September 14, 1922. Entry was confined to British subjects, and the conditions demanded that the entrant be an individual and not a company. Such names as Hinkler, Longton, Raynham, de Haga Haig, Uwins, Cobham, Butler, Barnard and Courtney were to be found on the list of contestants. Outstanding aeroplanes among the field of twenty-two were the "hush-hush" Siskin fighter, two Blackburn Kangaroos, a corpulent Vickers Vulcan, and the big Bristol ten-seater commercial biplane used, at that time, on the London-Paris service. There was a bevy of De Havillands of various denominations and sundry other "re-hashed" war machines. Hinkler's Avro Baby and the speedy Supermarine Sea Lion were non-starters.

On the Friday the course lay via Birmingham and Newcastle to Glasgow, and next day the machines were to return via Manchester and Bristol, the total distance being 810 miles.

It was quite an eventful start. Spenser

In this Jaguar-engined Armstrong-Whitworth (or Siddeley) Siskin Barnard averaged 141 m.p.h. round a 1,626-mile course in 1925.

c



F. L. Barnard, the winner of the first contest, is chaired from his victorious D.H.4A, which is seen on the left. Barnard won in 1922 and 1925

Grey in a Kangaroo had a bandaged foot; the recalcitrant le Rhone in a Sopwith Gnu ignited some petrol; Cyril Turner in *The Sweep*, a spotless Sky-writing S.E.5A, was handed a Louquet of flowers by Mrs. Savage to cheer him on his way, and the cold morning air was full of estimates of the speed of Courtney's Siskin—it was much as

though a Hawker F.7/30 were to race from Hatfield next Friday.

Forced landings were common on the way up to Glasgow, but Barnard, who was lying third at Newcastle, came in at 5.19 p.m. with Raynham two minutes behind him. Next morning Cobham beat Raynham to Manchester, but Raynham's Martinsyde was first at Bristol. F. L. Barnard's D.H.4A, which was second at that city, drew into the lead on the last lap, and came victorious into Croydon, having averaged 123.5 m.p.h.

The concluding paragraph of *Flight's* report of the finish reads: "At the close of the day the King's Cup was presented to Barnard by Lt. Col. Moore-Brabazon, and it was announced that His Majesty had intimated that he intended to present another Cup next year, the event to be an annual one henceforth. This announcement will be received with satisfaction by all interested in aviation, and the thanks of all are due to His Majesty for his generous offer."

In 1923 the 794-mile course covered practically the same ground as that of the previous year, but both start and finish were at Hendon. George Robey and Harry Tate had entered





(Left) Flt. Lt. Atcherley, who flew in the 1929 contest as "R. Llewellyn," receives the Cup from Lord Thomson. (Above) The two-seater Grebe (Jaguar) used by Atcherley. Flt. Lt. Stainforth acted as navigator

a machine each—doubtless the youth of Britain will learn with surprise that the latter gentleman was an early member of the Royal Aero Club—and noteworthy aeroplanes among the field of seventeen were a Gloster Grebe and a Supermarine Sea Eagle. This latter was an amphibian, and when it burst a tyre at Newcastle, Biard, its pilot, deflated the other one and continued on the rims.

Courtney again was racing a Siskin, and was first man in at Glasgow on the first stage (he averaged nearly 155 m.p.h.) with "Larry" Carter's Grebe close on his tail. The first arrival at Manchester next morning, on the return trip, was Broad in a Puma-engined D.H.9C. But Courtney beat him to Bristol, and was first man home at Hendon.

The "theatrical" D.H.'s (George Robey's Lion-engined "9" flown by Cobham, and the "9C" of Mr. Harry Tate, in the hands of Broad) both put up magnificent shows, the former averaging 144 m.p.h. Remarkably enough, exactly half the number of starters, as in the previous year, completed the course.

In more than one sense the next race was disappointing. It had been hoped that the Air Council would permit manufacturers to enter Service machines, but in consequence of a negative decision in the matter, the whole nature of the contest had to be changed. The field was a meagre ten: two Siskins, a pair of D.H.50's a brace of Supermarine Seagulls, a D.H.37, a Martinsyde F.6, and a Fairey IIID seaplane. Six completed the course.

The race was a handicap affair open to landplanes and seaplanes. There were no controls, competitors being started from Martlesham or Felixstowe, according to their earthly element, but they had to round points at Leith, Dumbarton and Falmouth to finish at Lee-on-Solent. The course

measured approximately 950 miles. A Siskin with Flt. Lt. Jones at the controls was the first over the finishing line; but the fifth man past the post, Alan Cobham in a D.H.50 with Puma engine, it was decided by the "slide-rule merchants," was the victor. He averaged 106 m.p.h. A few months previously Cobham had distinguished himself by making his London—Rangoon—London trip.

The next contest, in 1925, marked the entry of the De Havilland "Moth" into the world of sporting flying. As a race it was not brilliant, due to almost impossible weather. Of the fourteen starters, six failed to complete even the first stage of 191 miles and four more dropped out on the next lap, leaving but four to complete the first circuit, for the contest covered two days. On the first, the course (Croydon, Harrogate, Newcastle, Renfrew, Blackpool, Shotwick, Bristol) was flown anti-clockwise, and on the second it was covered in the reverse direction. This made a total distance of 1,608 miles—the longest King's Cup



A lady victorious: (Left) Commander Perrin shepherds in Miss Brown's winning Avian at the conclusion of the 1930 contest. (Above) Miss Brown receiving the Cup from Sir Philip Sassoon.



This Fox Moth, flown by Capt W. L. Hope in the 1932 contest, cheated the handicappers by averaging 124.25 m.p.h. (Right) Capt Hope receives the congratulations of the late Miss Winifred Spooner



course. Apart from the Moths, the most interesting machines were a Hawker Woodcock with Flt. Lt. P. W. S. Bulman as pilot, and Campbell's Bristol Bloodhound.

F. L. Barnard (not to be confused with "C.D." who flew Steve Donoghue's D.H.51 that year) received the Cup for the second time. His mount was a Siskin, and his speed 141 m.p.h.

The 1926 contest followed immediately on the heels of an R.A.F. Display, occupying two days, and was a handicap event. A formula was used for the first time, and the course was 1,464 miles long. The route was the same for each day, consisting of two triangular laps, each being flown twice alternately, the start and finish being Hendon Aerodrome. Capt. H. S. Broad, in a Cirrus Moth, won at 90.4 m.p.h.

Of twenty-six entries for the 1927 contest, but sixteen started, and only six finished the course. Seven of the ten non-starters were dissatisfied with the handicap formula evolved for the race. And no wonder, for when *Flight's* technical expert set to work to ascertain the chances of the various entries he found that, according to the formula, and assuming that the Moths entered were capable of 103 m.p.h., the big Horsley (the only machine in the race with Service markings) would be required to do 154 m.p.h., and the handsome Avro Avenger fighter would have to work up to 244 m.p.h.! Actually, one Moth averaged 109.6 so that, basing calculations on that speed, 286 m.p.h. would have

been required from the Avenger. A modified Bristol Badminton was to have appeared in the race, but crashed and killed Capt. F. L. Barnard a few days before.

Capt. W. L. Hope flew a Moth to victory that year, averaging 92.8 m.p.h., and making a second win for the Moth. Broad was forced to retire because whenever his tiny Tiger Moth hit a bump (the weather was far from ideal) his hand moved a little on the stick, causing the Tiger to climb or dive, the controls being hyper-sensitive.

The next race, in 1928, saw Hope duplicate his win again flying a Moth, but this time with a Gipsy engine instead of a Cirrus. The contest was also notable for the fact that it included a new competition—the Siddeley Trophy Tour. Mr. J. D. Siddeley had presented to the Royal Aero Club a Challenge Trophy and money prizes for competition among light aeroplane clubs. Machines whose empty weight did not exceed 1,000 lb. were eligible, but they had to be owned by a club, or a club member, and their pilots were to be members of the club entering or, in the case of privately owned aircraft, the owner had to be the pilot. Two days were spent over the race, competitors having to stop at each of the intermediate controls for thirty minutes, staying the night at Renfrew. The two sections totalled 1,096 miles. Thirty-eight entries were received, fourteen competing for the Siddeley Trophy.

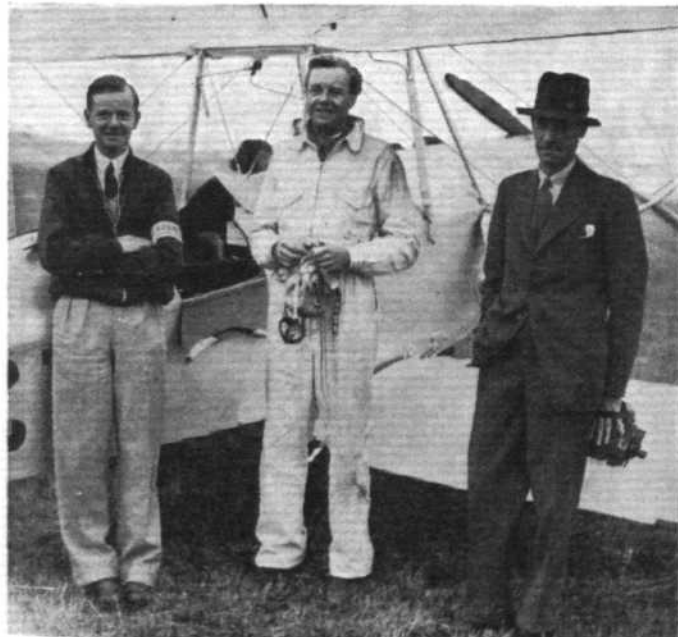
After Hope, who averaged 105½ m.p.h., came Uwins in the big Bristol 101 with "Jupiter" engine. He was clocked at 142 m.p.h. Miss Winifred Spooner was third, and won the Siddeley Trophy. Among the starters were an Autogiro, a formidable array of Moths, Bluebirds, Avians, Widgeons, etc., a Lincock, a Heron, a Grebe, and the Avenger.

The race was marred by a tragedy. Mr. G. N. Warwick on an Anec crashed on the summit of Broadlaw Hill, near Peebles, his body being subsequently found by a shepherd boy.

Heston, the new Air Park, was the start and finish of the 1929 contest, in which there were forty-one starters. It was marked by a somewhat unexpected, but nevertheless, very popular win. Stack in an Avian was leading practically all the way home from Blackpool on the second day of the contest when his engine gave trouble, and F/O. R. L. Atcherley, flying a Grebe under the name of "R. Llewellyn," with Flt. Lt. G. Stainforth as navigator, was first man across the line. Lt. Richardson, second, won the Siddeley Trophy.

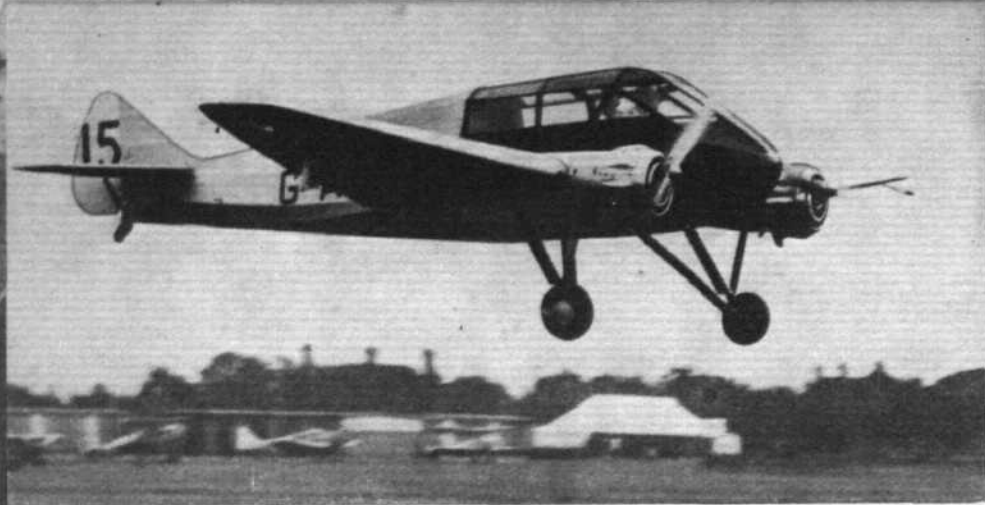
On the line were the inevitable Moths, Avians, Spartans, and Widgeons, a pair of Grebes, and a new Vickers fighter.

The beauty of Hanworth made an appropriate setting for the start and finish of the 1930 race, for it was won by a lady, Miss Winifred Brown. Her machine, a Cirrus Avian, averaged 102.7 m.p.h. round the 750-mile course. Of the 101



In 1933 Capt. G. de Havilland flew a Leopard Moth into first place. Here he is seen with his sons Peter and Geoffrey. (Right) The black and gold Leopard (one of the original three) used by "D.H."





Last year a twin-engined machine won the Cup for the first time. It was a Monospar S.T.10 with Pobjoy Niagara engines, flown by Flt. Lt. Schofield who had as a passenger Mr. Stieger, the designer. The victorious pair are seen on the right.



entries, 88 machines started, and out of the 28 competitors who either retired or made forced landings, not one received injuries of a serious nature. There were swarms of Moths and the other popular light machines of the time, with the great Vickers Vellore towering over all. The race was flown in a clockwise direction, the machines making compulsory stops at Bristol, Manchester, Newcastle and Hull.

The Duke of Kent, then Prince George, had entered a D.H. Hawk Moth, flown by Flt. Lt. Fielden, while a Hawker Tomtit with Sqn. Ldr. D. S. Don at the controls was the choice of H.R.H. the Prince of Wales.

The 1931 contest, which was confined to those not connected in any way in a professional capacity with any aircraft or aero engine firm, saw a large number of the forty starters fall by the wayside through bad weather. The lady pilots fared badly, but Miss Crossley managed to complete the course of 982.5 miles. There were five controls, and compulsory forty-minute stops were made at each. There were no really outstanding machines, except, perhaps, the Canadian Curtiss-Reid Rambler biplane. F/O. Edwards, in a Blackburn Bluebird with a Hermes engine, crossed the finishing line at Heston victorious. Mr. A. C. M. Jackaman, of the London Aeroplane Club, won the Siddeley Trophy.

Hope scored his hat trick the following year. In his D.H. Fox Moth he had been handicapped at about 110 m.p.h., but astounded everyone by taking his machine round the course at 124.25 m.p.h. The Prince of Wales' entry, a Gipsy-engined Comper Swift, with Flt. Lt. Fielden at the controls, came in second with the excellent average of 155.75 m.p.h. One of the big thrills of the occasion was provided by the Avro Mailplane, with moderately supercharged Panther engine which was kept wide open by Mr. H. A. Brown, who clocked 176 m.p.h.

The race was undoubtedly a triumph for aero engines. Two days of racing over a distance of 1,223 miles were marked by no mechanical trouble whatsoever. There were no great crowds at Brooklands Aerodrome, although the weather was very hot.

In 1933 the event consisted of a series of short races which actually amounted to eliminating trials. The handicapping was based on one short course, and not on the total number of miles to be flown by the machines which succeeded in getting into the finals.

It would be difficult to imagine a more popular win, for Capt. Geoffrey de Havilland came home victorious in his latest product, a Leopard Moth, which averaged 139.51 m.p.h. round the 831-mile course.

De Havillands, Percivals and Compers turned up for the start in goodly numbers (there were forty-two competitors), and there were three dark horses in the shape of a trio of Hawker Tomtits entered by Sir William Morris, and powered with the new Wolseley A.R.9 radials. A Percival Gull, with a Napier Javelin engine, was Prince George's choice.

In 1934, for the first time, a twin-engined machine was the winner. It was one of the new S.T.10 Monospars (two Pobjoy Niagara), flown by Flt. Lt. Schofield, who had Mr. H. J. Stieger, the designer of the machine, as passenger.

Weather conditions for the start were appalling, the ceiling being down to 600 or 800 feet. The race was flown in the form of two eliminating rounds, a semi-final and a final, the eliminating rounds being flown on the Friday, and the remainder of the race on Saturday. Start and finish were at De Havilland's new aerodrome at Hatfield. Twenty-eight different types of machines were entered, quite a large proportion being of new design.

Fourteen machines managed to get into the semi-final on the Saturday, and they made a grand race of it. By the end of the fifth lap there was little doubt that Schofield would win. Flt. Lt. "Tommy" Rose and Mr. L. Lipton fought it out for second place, finishing in the order mentioned.

PREVIOUS WINNERS OF THE KING'S CUP

Year.	Date.	No. of Entries.	Course.	Total Mileage.	Winner.	Speed (m.p.h.)
1922	Sept. 8-9	22	1ST DAY: Croydon, Birmingham, Newcastle, Glasgow. 2ND DAY: Glasgow, Manchester, Bristol, Croydon.	810	F. L. Barnard, D.H.4a (Eagle).	123.5
1923	July 13-14	17	1ST DAY: Hendon, Birmingham, Newcastle, Glasgow. 2ND DAY: Glasgow, Manchester, Bristol, Hendon.	809	F. Courtney, Siskin (Jaguar).	149
1924	Aug. 12	10	Martlesham or Felixstowe Leith, Dumbarton, Falmouth, Lee-on-Solent or Gosport ...	950	A. J. Cobham, D.H.50 (Puma).	106
1925	July 3-4	15	1ST DAY: Hendon, Harrogate, Renfrew, Newcastle, Manchester, Bristol, Hendon. 2ND DAY: Same course, but flown in opposite direction.	1,626	F. L. Barnard, Siskin (Jaguar).	141
1926	July 9-10	16	1ST DAY: Hendon, Coventry, Cheltenham, Hendon 2ND DAY Hendon, Martlesham, Cambridge, Hendon.	1,509	H. Broad, Moth (Cirrus I).	90.4
1927	July 30	26	1ST COURSE: Hucknall, Spittlegate, Huntingdon, King's Lynn, Cranwell 2ND COURSE: Hucknall, Howden, Skegness. 3RD COURSE: As first.	539½	W. L. Hope, Moth (Cirrus I).	92.8
1928	July 20-21	38	1ST DAY: Hendon, Norwich, Birmingham, Nottingham, Leeds, Newcastle, Glasgow. 2ND DAY: Glasgow, Liverpool, Bristol, Hamble, Lympne, Brooklands.	1,096½	W. L. Hope, Moth (Gipsy I).	105.5
1929	July 5-6	60	1ST DAY: Heston, Henlow, Mousehold, Hadleigh, Hornchurch, Lympne, Hamble, Filton, Blackpool. 2ND DAY: Blackpool, Silloth, Reafrew, Dunbar, Cramlington, Hucknall, Birmingham, Heston.	1,179	Flt. Lt. R. Atcherley, Grebe (Jaguar).	150.3
1930	July 5	101	Hanworth, Hamble, Bristol, Birmingham, Liverpool, Manchester, Leeds, Newcastle, Hull, Leicester, Hanworth.	750	Miss W. Brown, Avian (Cirrus III).	102.7
1931	July 25	41	Heston, Desford, Norwich, Nottingham, Brough, Leeds, Birmingham, Manchester, Hooton, Heston.	1,000	F/O. E. C. T. Edwards, Bluebird (Hermes).	117.8
1932	July 8-9	46	1ST DAY: Brooklands, Abingdon, Shoreham, Portsmouth, Bristol, Birmingham, Hooton, Woodford, Leicester Ipswich, Northampton, Brooklands. 2ND DAY: Brooklands, Bristol, Northampton, Brooklands, and Brooklands, Shoreham Portsmouth, Bristol, Brooklands.	1,250	W. L. Hope, Fox Moth (Gipsy IIIa).	124.25
1933	July 8	35	Short courses from Hatfield	800	G. de Havilland, Leopard Moth (Gipsy Major).	139.5
1934	July 13-14	43	Short courses from Hatfield	800	Flt. Lt. H. M. Schofield, Monospar S.T.10 (2 Niagara).	147.78



Private Flying

Topics of the Day

Is Ownership Encouraged?

THERE is hardly a club in the country to-day which has not formulated or carried into practice some plan for holding the member's interest after he has obtained his "A" licence—and the club's grant. But I often wonder whether clubs do everything possible to encourage members to buy their own machines and so to obtain the maximum of utility and enjoyment from this flying business.

We all know that an aeroplane in this country—and in most others, for that matter—cannot be used as often or as usefully as the idealists so often proclaim, and we all know, too, that hundreds of club members are not in the financial position to do much more than float around the aerodrome at comparatively infrequent intervals. But every club has a few members who are quite well enough off to buy and to maintain their own machines, yet these members, through sheer indolence, or lack of encouragement, continue to borrow the club's machines when and how they can.

The majority of club members are brought up in what can only be called "guarded" surroundings. They have instructors to fall back on when the weather is doubtful, and they usually know next to nothing about looking after a machine. Some of them never learn how to start up an engine or even to fold the wings of a light aeroplane.

New Work for the Clubs

USING their discretion, clubs might offer to teach the right kind of pilot quite a number of things and, on the whole, it is doubtful if they would lose much in the long run.

A private owner would, for his first year at least, remain a member of the club and his machine would be maintained and refuelled by the club. He would be so used to having a machine at his disposal that he might, during the interval of C. of A. and other overhauls, put in as much time on the club machines as he would otherwise have done during the entire year.

It should not be very difficult to convince the wealthy member of the advantages of ownership. The owner always has a machine at his disposal and does not need either to wait until some earnest licence hunter has completed a row of moderately bad landings or until an old war-horse has had a couple of split longerons replaced. On any day or at any time, for instance, one or other of the many coastal resorts with its own aerodrome is within an hour or two of extremely effortless travelling.

Even if the weather closes down on him he has only himself to worry about, and he need not think unhappily of all the members performing miracles of self-control at the club aerodrome. There should be little need to remind the owner of the possibilities of Continental travelling which are opened once he has gained sufficient experience of all-weather cross-country flying.

The First Cross-Country

NEEDLESS to say, if a determined member insists on rushing forth with a cheque in his hand on the day after he has obtained his "A" licence, he should take either an instructor or an experienced friend with him so that he can learn something about the peculiarities of the compass and about the difficulties of plain map reading. Even if he loses himself entirely, the experience will be more useful than that resulting from a dozen feeble circuits of the country immediately surrounding the home aerodrome.

It is, of course, advisable to make a start in the business of cross-country flying with a four-mile-to-the-inch aviation map. Only the pilot of considerable experience can safely be allowed to fly with a ten-mile-to-the-inch map in any but conditions of exceptional visibility. No trouble should be too great for the novice, and before even the shortest journey a line should be drawn and a compass course worked out and carefully followed.

One usually starts by drawing the most beautiful vector diagrams on clean sheets of paper, spending something like a quarter of an hour on the grave business of navigation before starting out for an aerodrome twenty miles away. When the pilot takes to the course and drift calculator he will know exactly what it is all about, and will be able to think out the problems for himself rather than to work merely according to the rules. Nowadays it is possible to purchase second-hand Service C.D.C.'s for quite low prices.

Something Big

RECENTLY I had a chance of flying something really big for the first time. Poised in a roomy armchair in the nose of the vessel, I found that the process of flying it depended, for the newcomer, almost entirely on an ability to use the blind-flying instruments.

With nothing to "aim" by, changes of fifteen degrees in one's course, or of five degrees in one's fore-and-aft attitude, were hardly noticed without reference to the directional gyro and to the pitch indicator. After careening about the sky in various sensitive light aeroplanes, I made the fatal error of attempting to fly the machine—an Avro 642 used by Commercial Air Hire, of Croydon—when it would travel very comfortably indeed if left more or less to itself. However, after a little initial yawing, resulting from plain misuse of the servo rudder, I managed eventually to hold it within a degree of the required course and to correct bumps without removing the wireless operator bodily from his seat.

I had tried a wheel control once or twice before, but even so I was surprised to find how naturally one falls into the knack of using it. The perfect forward view makes one more than ever conscious of the deficiencies of the average single-engined machine, and particularly of the conventional open biplane.

INDICATOR.

Private Flying**FROM the CLUBS***Events and Activity at the Clubs and Schools***LIVERPOOL**

Last week's weather was hardly fit for early soloists, being generally very bumpy, and Friday and Sunday were unfit for any flying. This kept flying time down to 52 hr. 10 min.

NEWCASTLE

Five new members joined the Newcastle-on-Tyne Aero Club last week during which 49 hr. 20 min. was flown. Capt. Irving and Mr. Griffiths have returned from their Continental tour in the Club's Puss Moth.

TOLLERTON

The Pou-du-Ciel will visit Tollerton on Friday and the Lord Mayor of Nottingham and other town officials intend to be present at the demonstration. Mr. Pennington and Mr. N. Baker have enrolled as flying members.

YORKSHIRE

The Club's Annual Ball will be held at the Hotel Majestic, Harrogate, on Friday, November 29.

Sunday, August 25, saw the establishment of a new record when Club machines flew 22 hr. 35 min. The total for last week was 56½ hr. New members are Mr. John Nixon and Mr. W. L. Adams.

HANWORTH

The blind flying machine has been very well patronised of late, and it is expected from the number of enquiries that a great many more members will be taking a course of instruction on this aircraft in the near future.

REDHILL

M. Mignet's demonstration of the Pou arranged for last Friday was "washed out," so he held an informal "At Home" in the hangar to a large number of enthusiasts who came along.

Fifty-eight hours were flown last week, and Mr. W. Hill made his "B" licence night flight.

READING

Squadron Leader and Mrs. MacGregor have been visiting the Club, Mr. Darracott and Mr. Cooper have gone solo, and Miss Buss has qualified for her "A" licence. Lord Allerton, Mr. Paine and Mr. MacLeod have become pupils.

Last week's flying time was 60 hr. 25 min.

LONDON

The forced landing competition will be flown off—or glided off—next Sunday. On the preceding two days the Club will be closed owing to the King's Cup Race. Last week Club machines flew 87 hr. and Messrs. H. S. A. Chapman, E. E. Fennell and W. Harrison completed the tests for their "A" licences.

SOUTH STAFFS

The Club's Avian flew 30 hr. during the last fortnight despite several days of bad weather. Miss Richardson, who has the distinction of being the first lady pupil to take flying instruction at Walsall Aerodrome, has become a member.

An "At Home" is being arranged for Saturday, September 14.

WITNEY AND OXFORD

Mr. H. A. H. Watts, a member of the Club and an engineering pupil of Universal Aircraft Services, Ltd., has taken his pilot's "B" licence, and Mr. L. F. Henstock, a pupil of the same firm, has obtained his ground engineer's "A" and "C" licences.

Bad weather cut last week's flying time down to 20 hr., of which 15 represent solo flying.

LEEMING

The third Leeming-trained pupil to make his "B" licence night flight from Lympne within the last six months is Mr. E. L. Currey. Mr. Low took his "A" licence last month, and Mr. Liversidge renewed his "ticket."

Flying time last month totalled 173 hr. 30 min.

KENT

Fifty-five hours' solo and exactly twice that amount of dual flying was recorded during August. The Pou-du-Ciel visited Bekesbourne on Wednesday of last week, and about 3,000 people came along.

Messrs. Websper, Gandon, Tuffill and Risch have become flying members, Dr. G. de Kober has gone solo and Messrs. Daniel, Helcke and Prangnell have passed their "A" licence tests.

BRISTOL

There are three new pilot members: Capt. Hon. L. Lambert, R.N., Mr. P. W. Dunphy, and Mr. C. O. Morehouse. Mr. Dunphy (who is the first of the Air League scholars to qualify for a pilot's licence at Bristol), and Mr. F. Hendy (an assistant to the Club's ground engineer) have taken their "A" licences.

The Club now boasts a radiogram, subscribed for by members. The first of a series of monthly sherry parties will be held on October 5. During August the Club machines put in 160 hr. flying.

MIDLAND

Thunderstorms and high winds are reflected in last week's flying return, which shows 21 hr. 10 min. dual and 15 hr. 30 min. solo.

ABERDEEN

M. Robineau, a colleague of M. Mignet, demonstrated the Pou at Aberdeen on August 26. Entrance to the Airport was free, and intense interest was apparent. School machines were kept busy during the evening.

CAMBRIDGE

Two more members would have taken their "tickets" had it not been for bad weather last week. Flying time actually totalled 58 hr. Jubilee Air Displays came down on Wednesday and had an exceptionally good "house."

LEICESTERSHIRE

The Miles Falcon, as well as a Moth, did some night flying on August 24. There were four soloists in this branch. Mr. O. M. White has taken his "A" licence, Mr. A. C. Phillips has gone solo, and Club machines flew 46 hr. between August 18 and 31.

CIVIL AVIATION SERVICE CORPS

Last Sunday thirteen members attended at Fen Ditton aerodrome and put in 8 hr. 50 min. dual, and 2 hr. 25 min. solo flying.

Mr. Jessett passed his "A" licence tests, and three new members took their first instructional flights. Mr. Molyneux spent the preceding week at the aerodrome and did some useful flying.

Members will be reporting at Hatfield on Friday and Saturday for duties in connection with the King's Cup Race.

HESTON

Mr. Richard Fairey, a son of the great designer, made his first solo flight at Heston last week after four hours' dual instruction. He enjoys the benefit of his father's sportsmanship in allowing pupils from Heston to practise on the Fairey Aviation Co.'s private aerodrome at Heathrow.

Mr. Dimitrios Kavouras, who speaks no languages but modern Greek, is fast progressing with an "A" licence course.

NORTHAMPTONSHIRE

The landing competition will be held next Sunday, September 8. On September 28 a car rally is being organised to compete for the Le Champion Challenge Cup.

In recognition of Mr. J. W. Tomkins' achievement in building his Gloster Gamecock, it has been agreed to give him the Wakefield Challenge Cup, which is awarded for the best performance of each year. The Cup will be presented at a dinner which is being given for Mr. Tomkins, on Friday, September 20, in the Clubhouse.

NORFOLK AND NORWICH

On Saturday the Club is holding a Garden Party from 3 p.m. to 6 p.m. All members of the British Association have been invited, and the programme will consist of flying and gymkhana events. A number of R.A.F. machines will be available for inspection.

Messrs. H. Blount and R. Coleman began taking flying instruction last week. Among the visitors were M. Legendre, a member of the Dieppe Aero Club in a Caudron, and Mr. C. W. A. Scott.

Eleven boys of the Public Schools Aviation Camp went solo last week.

BROXBOURNE

In spite of the fact that many of the members have been on holiday, flying time for the week ended August 28 totalled 72 hr. 41 min. Two new members, Messrs. J. M. Gray and A. H. Eyre, joined during the week and one first solo was made by Morian Hansen, of Denmark. The Club's blind flying machine was put into service again during the week-end.

The map-reading competition for the "Shelmerdine" Challenge Bowl, resulted in a tie for first place between P. T. Buckingham (last year's winner) and V. A. Ercolani. Third was Mr. W. S. Dack. The fly-off will take place on Sunday, September 8.

CINQUE PORTS

The Folkestone Aero Trophy Race will be flown on Saturday, September 14, over a course which will take the machines three times round Folkestone with the start and finish at Lympne. All competitors are invited to an Aviation Dance on the previous evening at the Leas Cliff Hall. The machines will be inspected at 10 a.m. and the heats will be flown at 11 a.m., while the final will take place at 3.30 p.m.

The Mayor of Folkestone has graciously consented to present the Trophy to the winner as well as the second and third prizes, and this presentation will take place at 5.15 p.m. at the Leas Cliff Hall. The handicappers for the race are Messrs. Rowarth and Dancy. Several interesting entries have already been received, among them being Mr. Guy Hansez.

Normal flying tuition and Club activities have continued since the International Rally and the flying time registered for the past three weeks was 197 hr.

THE FOURTEENTH

King's Cup Routes and Rules : Elimination Course of 953 Miles : Final Course of Just Over Fifty Miles to be Flown Seven Times : "Flight" Inspects Saturday's Course from the Air

PROMPTLY at 8 a.m. on Friday next the official starter will drop his green flag for the first of the competitors in the King's Cup Air Race, which again this year starts and finishes at the De Havilland aerodrome, Hatfield. The thirty-six aeroplanes which have been entered, with the exception of any that may have been scratched, will have undergone a close scrutiny by the handicappers on the previous day to ensure that they conform in every respect to the details on the entry forms. Any Plasticine fairing not "declared" will be ruthlessly removed, or else the handicap allowance will be adjusted. It is expected that all the thirty odd machines will be got away in a quarter of an hour on their flight around Britain.

Friday's course has been planned to form an eliminating trial for the actual race. The competitors will be sent off approximately in the order of their racing numbers, which means that they will go roughly in order of speed, the fastest machines first. This is done to avoid, as far as possible, any serious congestion at the controls, of which there are four: Renfrew (Glasgow), Newtownards (Northern Ireland), Woodford (Manchester), and Splott (Cardiff).

The speed of competing machines will be calculated on lapsed time, that is to say, stops en route, at controls, and for refuelling, will count as flying time. As a result of this regulation competitors will obviously get through their refuelling as quickly as possible, and reduce the number of such stops to a minimum. A few of the machines may be able to make the circuit of 953 miles with but one fill-up. These will probably choose Newtownards, which is 476 miles from Hatfield on the outward journey and 477 miles on the homeward, thus forming an exact half-way point. The majority of competitors will probably elect to refuel twice, and the most conveniently spaced aerodromes will in that case be Renfrew and Woodford, the former being 371 miles from Hatfield, while Woodford is 320 miles from Renfrew and 262 miles from Hatfield on the homeward journey.

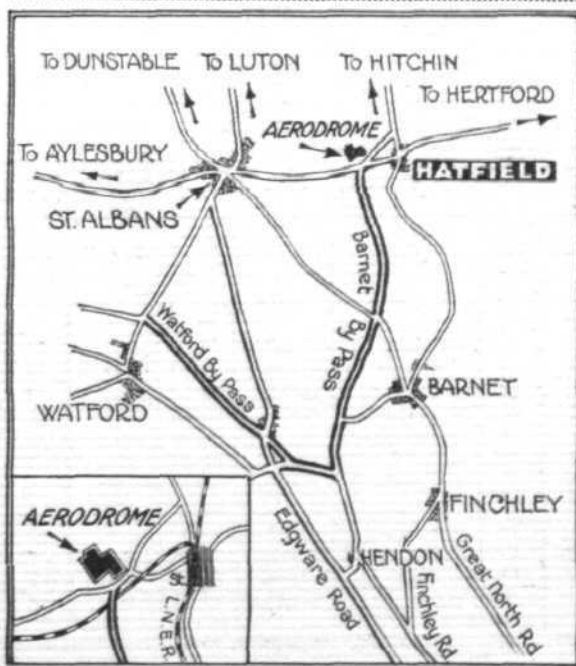
According to the regulations, competitors may fly at any speed they choose, as their handicap allowances, although announced before the race, will not be taken into account in Friday's flying. In practice, however, most of them will be going nearly "all out" because the machines are divided into two classes. Those of 150 h.p. or less and those of more than 150 h.p. and the fastest



Friday's eliminating course, showing the controls, turning points, and approximate earliest times of arrival.

THE PRIZES

- To the winner—THE KING'S CUP
- To placed competitors—1st, £500; 2nd, £200; 3rd, £100.
- Best time in the eliminating contest in each of the classes A and B—£50.
- For other competitors qualifying for the final—Prize money totalling £100. (Above cash prizes presented by Lord Wakefield.)
- Best time between Hatfield and Cardiff in each of the two classes—£15—presented by Cardiff Aeroplane Club.
- Best club member's performance—the Siddeley Trophy.



How to reach Hatfield Aerodrome by road.

ten in each class will go into the final. Obviously, where a machine is known to be markedly faster than any others in the same class, there will be nothing to be gained by flying it "all out," as in any case it cannot well miss being among the first ten. But where half a dozen competitors are of very nearly equal speed, the need for full-throttle flying will be urgent, and minutes, or even seconds, spent on the ground in the controls may mean the difference between getting into the final and not getting in. This is something of a hardship, and introduces a certain element of unfairness in the case of the slower machines in each class.

At the controls the arrangements have been planned with a view to expediting the signing of race cards and filling up of tanks as far as possible without introducing any risk of collision. Each aerodrome will be divided into two zones, one for landing and one for departure. Before landing, competitors are required to fly between two arrows placed on the aerodrome, cross the finishing line, and turn left to land into wind. After landing each pilot will taxi to the control office, where his race card will be signed, and will then taxi along a lane laid out near the perimeter of the aerodrome to the starting line. Refuelling stations will be placed outside the taxiing lane so that those who do not wish to refuel can proceed unhindered to the starting line. This will be indicated by two wind socks placed 100 yards apart. The official starter will indicate to a competitor by displaying a green

KING'S CUP ENTRIES

Racing No.	Section*	Reg. Marks	Entrant	Pilot	Aircraft	Engine
1†	B	G-ADEF	Cyril Nicholson ...	T. Campbell Black ...	D.H. Comet ...	2 Gipsy V1 R.
2	B	G-ACND	H.R.H. The Duke of Kent ...	E. W. Percival ...	Percival Mew Gull ...	Gipsy VI.
3†	B	G-ACTC	Sir John Kirwan ...	Flt. Lt. R. Duncanson ...	Hendy Heck ...	Gipsy VI.
4†	B	G-ADNA	Capt. G. de Havilland ...	G. R. de Havilland and P. de Havilland ...	D.H.90 ...	2 Gipsy Major.
5	B	G-ACTE	William Humble ...	William Humble ...	Miles Hawk Speed Six ...	Gipsy VI.
6	B	G-ADGP	L. Fontes ...	L. Fontes ...	Miles Hawk Speed Six ...	Gipsy VI.
7	B	G-ADOD	Miss R. Slow ...	Miss R. Slow ...	Miles Hawk Speed Six Mk. II ...	Gipsy VI R.
8	A	G-ACNC	F. B. Worman ...	P. de W. Avery ...	Comper Streak ...	Gipsy Major.
9	A	G-ADNL	G. A. Hebden ...	F. G. Miles ...	Miles Hawk M.5 ...	Gipsy Major H.C.
10	B	G-ADFA	Peter Mursell ...	C. E. Gardner ...	Percival Gull ...	Gipsy VI.
11	B	G-ADEP	E. W. Percival ...	K. F. H. Waller ...	Percival Gull ...	Gipsy VI.
12	B	G-ACUP	Diana Mary Williams ...	T. W. Morton ...	Percival Gull ...	Gipsy VI.
13	B	G-ADMI	W. R. Porter ...	S. W. Sparkes ...	Percival Gull ...	Gipsy VI.
14	B	G-ACPA	S. L. Turner ...	S. L. Turner ...	Percival Gull ...	Gipsy VI.
15	B	G-ADLS	Samuel Harris ...	L. Lipton and S. Harris ...	Miles Falcon ...	Gipsy VI.
16	B	G-ADLC	Viscountess Wakefield of Hythe ...	T. Rose ...	Miles Falcon ...	Gipsy VI.
17	B	G-ADLL	O. G. E. Roberts ...	O. G. E. Roberts ...	Monospar S.T.12 ...	2 Gipsy Major H.C.
18	A	G-ADNO	Viscount Wakefield of Hythe ...	H. S. Broad ...	T.K.2 ...	Gipsy Major.
19	B	G-ACLT	Sir Charles Rose, Bt. ...	Sir Charles Rose, Bt. ...	Airspeed Courier ...	Lyux IV c.
20	A	G-ABWH	W. L. Hope ...	W. L. Hope ...	Comper Swift ...	Gipsy III.
21	A	G-ABWW	R. O. Shuttleworth ...	R. O. Shuttleworth ...	Comper Swift ...	Gipsy III.
22	A	G-ADGE	A. H. Cook ...	A. H. Cook ...	Miles Hawk Major ...	Gipsy Major H.C.
23	A	G-ADNK	S. A. Sadler ...	F. D. Bradbrooke ...	Miles Hawk Major ...	Cirrus Major 1.
24	A	G-ADNJ	A. Henshaw ...	A. Henshaw ...	Miles Hawk Major ...	Cirrus Major 1.
25	A	G-ADLR	Charles Best ...	John Armour ...	B.A. Cupid ...	Gipsy Major.
26	A	G-ADOE	C. S. Napier ...	Flt. Lt. E. T. C. Edwards ...	Percival Gull ...	Cirrus Major 1.
27	A	G-ACRG	John Fox ...	Flt. Lt. J. B. Wilson ...	B. A. Eagle ...	Gipsy Major.
28	A	G-ADMW	Antony C. W. Norman ...	Antony C. W. Norman ...	Miles Hawk Major ...	Gipsy Major.
29	A	G-ADLA	Mrs. E. Battye ...	Mrs. E. Battye ...	Miles Hawk Major ...	Gipsy Major.
30	A	G-ACPU	E. L. Gandar Dower ...	Angus Irwin ...	B. A. Eagle ...	Gipsy Major.
31	A	VH-UVH	C. J. Melrose ...	C. J. Melrose ...	Percival Gull ...	Gipsy Major.
32	A	G-ADLB	Major G. W. G. Allen ...	O. Cathcart Jones ...	Miles Hawk Trainer ...	Gipsy Major.
33	A	G-ADLN	R. Cornwall ...	H. R. A. Edwards ...	Miles Hawk Trainer ...	Gipsy Major.
34	A	G-ACHC	Sir Derwent Hall-Caine ...	Sir Derwent Hall-Caine ...	D.H. Leopard Moth ...	Gipsy Major.
35	A	G-ACUO	J. M. Barbour, Jr. ...	J. Barbour and W. Gairdner ...	D. H. Leopard Moth ...	Gipsy Major.
36	B	G-ABME	A. H. Tweddle ...	A. H. Tweddle ...	Avro Avian Mk. IV M ...	Genet Major.

* A = Engine not exceeding 150 h.p.

B = Engine over 150 h.p.

† Probable non-starters

flag that the course is clear and he is at liberty to take off.

On the return to Hatfield aerodrome competitors are required to pass in flight between two arrows laid out on the aerodrome. After passing between the two arrows competitors must turn left and land. They are particularly warned not to "zoom" or alter course suddenly after passing between the two arrows.

It is difficult to forecast accurately the time of arrival of competitors at the various controls and turning points. In order to give an approximate idea, however, we have shown on the small sketch map of the eliminating course certain times which may be regarded as the earliest times when the first machine may be expected. It has been assumed, for the purpose of working out these times, that the machine leaves Hatfield at 8 a.m., that its speed is 180 m.p.h., that it is refuelled at Stranraer and Woodford, that refuelling takes

fifteen minutes, and that the machine loses five minutes in landing at the other two controls (Newtownards and Cardiff). Obviously the figures are subject to very considerable changes. For instance, if there is a strong southerly wind on Friday the first machine may get to Newcastle a good deal earlier, but the time thus gained will be lost again when the machine begins to head south on its homeward journey.

At the turning points the competing machines do not, of course, have to land; they merely round the particular mark chosen and set off across country for the next control or turning point on the route. At Woolston (Newcastle) the mark will be a white cross laid out on the aerodrome. Competitors leave this cross on their left. The same applies to the white cross on Macmerry aerodrome (Edinburgh). At Stranraer the turning point is the coastguard station at Portpatrick, which

HANDICAP ALLOWANCES AND CALCULATED SPEEDS FOR FINAL

Racing No.	Pilot	Machine	Handicap	Speed*	Racing No.	Pilot	Machine	Handicap	Speed*	Racing No.	Pilot	Machine	Handicap	Speed*
			m. s.	m.p.h.				m. s.	m.p.h.				m. s.	m.p.h.
36	Tweddle ...	Avian	56 20	130	24	Henshaw ...	Hawk	36 00	148	14	Turner ...	Gull	23 42	161½
34	Hall-Caine ...	Leopard Moth.	48 22	136½	28	Norman ...	Hawk	36 00	148	13	Sparkes ...	Gull	23 42	161½
35	Barbour ...	Leopard Moth.	48 22	136½	32	Jones ...	Hawk	35 00	149	10	Gardner ...	Gull	23 42	161½
30	Irwin ...	Eagle	46 04	138½	33	H. Edwards	Hawk	35 00	149	11	Waller ...	Gull	23 42	161½
31	Melrose ...	Gull	42 45	141½	23	Bradbrooke	Hawk	34 02	150	12	Morton ...	Gull	23 18	162
26	E. Edwards ...	Gull	42 12	142	22	Cook ...	Hawk	31 39	152½	3	Duncanson ...	Heck	20 03	166
25	Armour ...	Cupid	42 12	142	21	Shuttleworth	Swift	31 39	152½	9	Miles ...	Hawk	18 30	168
27	Wilson ...	Eagle	41 08	143	17	Roberts ...	S.T.12	29 49	154½	8	Avery ...	Streak	14 24	173½
19	C. Rose ...	Courier	40 05	144	18	Broad ...	T.K.2	28 01	156½	5	Humble ...	Hawk	12 58	175½
20	Battye ...	Hawk	39 02	145	15	Lipton ...	Falcon	27 08	157½	6	Fontes ...	Hawk	12 58	175½
					16	T. Rose ...	Falcon	27 08	157½	7	Slow ...	Hawk	10 53	178½
					20	Hope ...	Swift	26 15	158½	2	Percival ...	Mew Gull	Ser.	196

* The speed in this column is not official. It is worked out on the assumption that the limit man is being handicapped at 130 m.p.h., which is the slowest speed allowed.

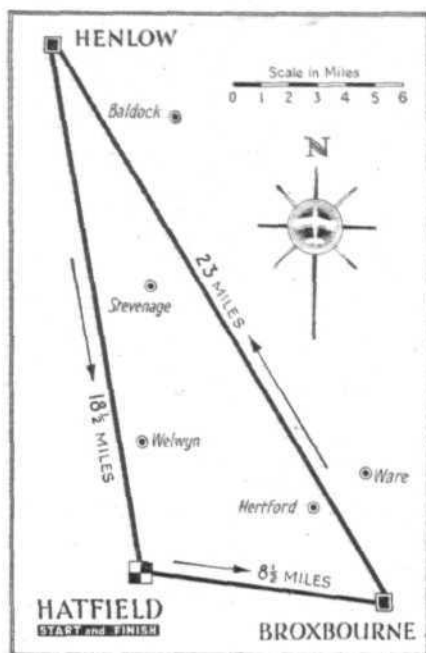
competitors leave on their right. A right-hand turn also has to be made at Dalbeattie, where a white cross will be laid out in a field half a mile due west of the town. At Blackpool the turning point is the tower on the front, and competitors leave this on their left.

For the final or actual race which takes place on Saturday next, starting at 3 p.m., the course is one of approximately fifty miles, which has to be covered seven times. Start and finish are at Hatfield, and the two turning points are Broxbourne aerodrome, Herts, and Henlow aerodrome, Beds. Again the actual turning points will be white crosses laid out on the three aerodromes, and the circuit will be flown left-hand. The actual finishing line at Hatfield will be indicated by two arrows, and the machines must cross the finishing line in the direction shown by the arrows.

Flying Round Saturday's Course

Landmarks on the course this year are not exactly conspicuous by their absence, but they are rather few and far between. Going round recently in one of the racing Miles Falcons, a member of the staff of *Flight* noticed that the large, rather white-looking mansion at Essendon (possibly Lord Essendon's seat) stands out well; this lies a little to the right of the course and to the right of Essendon village. The next check is the railway tunnel at Bayford. The line crosses the course here and the tunnel—or break in the line—serves as a check, but it is hardly prominent enough to be called a landmark. The approach to Broxbourne aerodrome, the first turning point, can be made easier by remembering that there are practically no glass-houses to the left, but a large block just short of the aerodrome and many others to the right.

After passing Broxbourne and getting on the course for Henlow a light-coloured tower at Little Amwell, slightly to the right of the course, stands up well; and then, leaving Hertford to the left, the line goes right over the bus depot, a large and very conspicuous building of the hangar type, surrounded by an open tarmac parking ground. A little farther on the



Saturday's short course for the Final.

railway line has a conspicuous curve in at Stapleford, and then, to the right of Stevenage, a large square gap appears between two large blocks of trees; behind the gap is a very light-coloured field, and the course lies right over this.

By this time, if the visibility is reasonable, Arlesley chimneys will be easy to see. They lie to the right of the course, but are close to the aerodrome, and probably the faster machines will find it an advantage to approach wide and over them so that a sweeping turn can be made over the aerodrome, which will cause a smaller drop in speed than would the sharp turn which would have to be made if a course straight up to the aerodrome were maintained.

After Henlow, the leg of the circuit leading back to Hatfield is probably more devoid of leading marks than either of the other two. There is, however, a good check on the course to be obtained by flying straight down the first part of the road to Hitchin. This town is then left on the left hand, and an area of modern villas with deep maroon roofs and light rough-cast walls makes another good check. From there on until the wireless masts near Hatfield are sighted there is little to distinguish between the clumps of trees, so that the compass must be relied upon

until the De Havilland factory and/or hangars appear.

The Siddeley Challenge Trophy.—The challenge trophy and replica, presented by Sir John D. Siddeley, C.B.E., will be awarded to the light aeroplane club whose representative is highest in the placings. To qualify for this prize the machine entered in the King's Cup race must be the property of a member of the club and the owner must be the pilot. Eligible for the prize are the following King's Cup entries: No. 5, Wm. Humble (York County); No. 6, L. Fontes (Reading); No. 7, Miss Slow (Reading); No. 9, F. G. Miles (Reading); No. 10, C.; E. Gardner (Redhill); No. 22, A. H. Cook (London); No. 24, A. Henshaw (Lincolnshire); No. 28, Antony Norman (Old Etonian); No. 29, Mrs. Battye (Reading); No. 31, C. J. Melrose (S. Australia); No. 36, A. H. Tweddle (London Air Park).

Admission to Hatfield Aerodrome.—The public will be admitted to Hatfield Aerodrome on Friday and Saturday—the second day, with the short course, will naturally provide the greater spectacular interest. There are two enclosures, 5s. and 1s. Royal Aero Club members are admitted free. Cars are charged 2s. 6d., and motor cycles (solo or sidecar) 6d.

Service at Hatfield.—To-day, September 5, service will be available at Hatfield to all entrants of De Havilland aircraft and Gipsy engines, and for handling and housing of competitors as required. Arrangements have also been made with the following companies, who will have representatives in attendance for specialised service if required: Smith's Aircraft Instruments, Dunlop Tyres and Wheels, K.L.G. Plugs, Lodge Plugs, B.T.H. Magnetos, Bendix Brakes, Titanine Dope.

On Friday and Saturday similar service will be available at Hatfield, and at Renfrew, Newtownards, Woodford and Cardiff two De Havilland Gipsy engine engineers will be in attendance at each control to give any assistance within their power to competitors. They will carry a stock of emergency spares for Gipsy engines, and sparking plugs by arrangement with K.L.G. and Lodge, and magneto equipment by arrangement with B.T.H.

Grouping in Eliminating Trial : Fastest Ten in Each Class To Go into Final : Speeds Corresponding to Handicap Allowances in Final.

CLASS A.—Up to 150 h.p.			CLASS B.—Exceeding 150 h.p.		
No.	Pilot	Speed	No.	Pilot	Speed
8	Avery	173.5	2	Percival	196
9	Miles	168	7	Miss Slow	178.5
20	Hope	158.5	6	Fontes	175.5
18	Broad	156.5	5	Humble	175.5
21	Shuttleworth	152.5	3	Duncanson	166
22	Cook	152.5	12	Morton	162
23	Bradbrooke	150	11	Waller	161.5
32	Jones	149	10	Gardner	161.5
33	H. R. A. Edwards	149	13	Sparkes	161.5
24	Henshaw	148	14	Turner	161.5
28	Norman	148	15	Lipton	157.5
29	Mrs. Battye	145	16	Rose	157.5
27	Wilson	143	17	Roberts	154.5
25	Armour	142	19	Sir C. Rose	144
26	E. T. C. Edwards	142	36	Tweddle	130
31	Melrose	141.5			
30	Irwin	138.5			
34	Hall-Caine	136.5			
35	Barbour	136.5			

ENGINES IN THE KING'S CUP RACE

ALL except two of the thirty-eight engines installed in the King's Cup entries are of the popular air-cooled, inverted, in-line, four- or six-cylinder types, being the products of the De Havilland and Cirrus companies. The two exceptions are radials, both Siddeley types—a Lynx IVC in the Airspeed Courier and a seven-cylinder Genet-Major in an Avian. Both exceed 150 h.p.

Actually the Lynx is the largest engine in the race, being of 12,400 c.c. capacity and giving 241 h.p. at maximum r.p.m. and sea level. The Genet Major is of 7,320 c.c. capacity, and although rated at 150 h.p. its maximum output is 164.5 h.p. at sea level.

The 130 h.p. D.H. Gipsy Major is being raced in two forms.

There will be the standard version, the compression ratio of which is 5.25:1, and the high-compression type, in which this ratio has been raised to 6:1. The capacity is 6,124 c.c.

Similarly, there are two versions of the 200 h.p. Gipsy Six. The standard type, which predominates, has a compression ratio similar to that of the ordinary Gipsy Major, but the Gipsy Six R, which is rated at 224 h.p., has a ratio of 6.5:1. The capacity of the Gipsy Six is 9,186 c.c.

The Gipsy III, as installed in the two Swifts, gives 120 h.p. and has a capacity of 5,716 c.c.

There are three Cirrus Major 1's. This type is of new design, and at maximum r.p.m. gives 135 h.p. The capacity is 6,330 c.c.

THE ROYAL AIR FORCE

SERVICE NOTES AND NEWS



AIR MINISTRY ANNOUNCEMENTS

NOMENCLATURE OF AIRCRAFT—"HECTOR"

The official name of the Hawker army co-operation aeroplane fitted with "Dagger" engine is "Hector."

NEW AUXILIARY AIR FORCE SQUADRONS

The Air Ministry announces that the three additional Auxiliary Air Force Squadrons for which provision is made in the Royal Air Force Expansion Scheme will be constituted as follows:—

- No. 609 (West Riding) (Bomber) Squadron.
- No. 610 (County of Cheshire) (Bomber) Squadron.
- No. 611 (West Lancashire) (Bomber) Squadron.

ROYAL AIR FORCE GAZETTE

London Gazette, August 27, 1935

General Duties Branch

Air Comdre. J. E. A. Baldwin, D.S.O., O.B.E., is appointed Director of Personal Services, Air Ministry, vice Air Comdre. E. D. M. Robertson, C.B., D.F.C., R.A.F. (Retired) (August 22).

The following Acting Pilot Officers on probation are confirmed in rank and graded as Pilot Officers (August 24):—W. F. Barton, K. S. Batchelor, R. E. Burns, R. M. Fenwick-Wilson, G. M. Fidler, A. Flowerdew, C. Fothergill, C. W. K. Nicholls, W. I. Scott.

P/O. J. O. Hinks is promoted to the rank of Flying Officer (March 29), with seniority of September 29, 1934. (Substituted for the notification in the *Gazette* of August 6); Flt. Lt. E. B. Grace takes rank and precedence as if his appointment as Flight Lieutenant bore date January 1 immediately preceding Flt. Lt. P. A. Booth, Lieut. R.N., on the gradation list. Reduction takes effect from July 12; Wing Cdr. J. K. Wells, O.B.E., A.F.C., is placed on the retired list (August 23); Flt. Lt. R. A. P. Roberts is placed on the retired list at his own request (August 25).

Stores Branch

Flying Officer on probation S. W. Needham is confirmed in rank (July 12); Sqn. Ldr. R. V. J. S. Hogan is placed on the retired list (August 26).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commanders.—H. S. Powell, M.C., to R.A.F. Depot, Uxbridge; for Administrative duties, 14.8.35. H. W. G. J. Penderel, M.C., A.F.C., to R.A.F. Station, Kenley; to command vice Group Capt. G. S. M. Insall, V.C., M.C., 9.8.35. L. F. Forbes, M.C., to Headquarters, Coastal Area, Lee-on-the-Solent; for duty as Senior Personnel Staff Officer, vice Wing Cdr. F. H. Coleman, D.S.O., 16.8.35. L. H. Slatter, O.B.E., D.S.C., D.F.C., to R.A.F. Station, Tangmere; to command vice Wing Cdr. R. B. Mansell, O.B.E., 22.8.35.

Squadron Leaders.—J. Noakes, A.F.C., M.M., to No. 1 Flying Training School, Leuchars; for flying duties at Novar Camp, 14.8.35. P. R. T. J. M. I. C. Chamberlayne, A.F.C., to Station Flight, Duxford; for duty as Flying Instructor vice Sqn. Ldr. J. S. Chick, M.C., A.F.C., 19.8.35.

Flight Lieutenants.—J. N. Baxter, to H.M.S. *Glorious*, 15.8.35. R. C. Keary, to No. 22 (Bomber) Squadron, Donibristle, 13.8.35. H. F. G. Southey, to Electrical and Wireless School, Cranwell, 15.8.35. A. M. N. David, to R.A.F. Station, Gosport, 19.8.35. D. D'A. A. Greig, D.F.C., A.F.C., to Experimental Section, Royal Aircraft Establishment, 16.8.35. C. V. Howes, to No. 14 (Bomber) Squadron, Amman, Transjordan, 16.8.35. C. L. Lea-Cox, to No. 56 (Fighter) Squadron, North Weald, 19.8.35. J. A. S. Outhwaite, to H.M.S. *Furious*, 20.8.35. H. M. G. Parker, to Marine Aircraft Experimental Establishment, Felixstowe, 23.8.35.

Flying Officers.—D. P. Lee, to No. 1 Armoured Car Company, Hinaidi, Iraq, 16.8.35. W. E. Rankin, No. 23, Group Headquarters, Grantham, 14.8.35.

Pilot Officer.—B. V. Robinson, to No. 40 (Bomber) Squadron, Abingdon, 15.8.35. The following Pilot Officers are posted to their respective Units on 27.7.35 on appointment to Permanent Commissions:—J. W. Arney, to No. 12 (B) Squadron, Andover; D. W. Balden, to No. 19 (F) Squadron, Duxford. J. W. Bayley, to No.

The administration of these Squadrons will be undertaken by the Territorial Army and Air Force Associations for the counties concerned.

The Headquarters of the West Riding Squadron and the West Lancashire Squadron will be at Leeds and Liverpool respectively. The location of the Headquarters of the County of Cheshire Squadron is under consideration.

COLLEGE OF SCIENCE AND TECHNOLOGY

The undermentioned officer has been awarded the Diploma for Advanced Study in Aeronautics (D.I.C.) on completion of a course at the Imperial College of Science and Technology, South Kensington: Flt. Lt. H. B. Seekamp, R.A.A.F.

Commissioned Engineer Officer

Flying Officer on probation F. W. H. Gee is confirmed in rank (July 20).

ROYAL AIR FORCE RESERVE

Reserve of Air Force Officers General Duties Branch

F. J. Branton is granted a commission as Flying Officer in class A (August 14).

The following Pilot Officers on probation are confirmed in rank on the dates stated:—G. K. Lawrence, D. G. Perry (July 9); N. W. Burnett, H. L. Cruickshank, D. W. Donaldson, H. F. Morley, J. D. Wood (August 13).

The following Flying Officers are transferred from class A to class C:—C. E. Kelly (June 16, 1934); J. E. H. Littlewood (October 12, 1934).

Flt. Lt. E. D. Cummings, D.F.C., is transferred from class A to class C (February 22, 1933). (Substituted for the notification in the *Gazette* of June 12, 1934.)

AUXILIARY AIR FORCE

General Duties Branch

No. 604 (COUNTY OF MIDDLESEX) (FIGHTER) SQUADRON.—P. C. Wheeler is granted a commission as Pilot Officer (August 10).

No. 605 (COUNTY OF WARWICK) (BOMBER) SQUADRON.—P/O. G. A. B. Cooper is promoted to the rank of Flying Officer (July 14).

40 (B) Squadron, Abingdon. T. B. de la P. Beresford, to No. 16 (AC) Squadron, Old Sarum. H. E. C. Boxer, to No. 1 (F) Squadron, Tangmere. N. B. R. Bromley, to No. 32 (F) Squadron, Biggin Hill. T. M. Buchanan, to No. 25 (F) Squadron, Hawkinge. A. W. J. Clark, to No. 57 (B) Squadron, Upper Heyford. C. S. Cooper, to No. 40 (B) Squadron, Abingdon. F. E. Crose, to No. 35 (B) Squadron, Bircham Newton. W. A. A. de Freitas, to No. 22 (B) Squadron, Donibristle. F. O. Dickson, to No. 58 (B) Squadron, Worthy Down. C. D. Hackett, to No. 16 (AC) Squadron, Old Sarum. N. M. Hall, to No. 3 (F) Squadron, Whyteleafe. R. I. Jones, to No. 29 (F) Squadron, North Weald. D. P. D. G. Kelly, to No. 4 (AC) Squadron, South Farnborough. A. J. Mason, to Royal Air Force Station, Calshot. J. D. Melvin, to No. 22 (B) Squadron, Donibristle. A. W. D. Miller, to No. 111 (F) Squadron, Northolt. P. T. Philpott, to No. 13 (AC) Squadron, Old Sarum. M. E. W. Scott-MacKirdy, to No. 65 (F) Squadron, Hornchurch. J. H. Slater, to No. 18 (B) Squadron, Upper Heyford. A. B. Sowter, to No. 7 (B) Squadron, Worthy Down. L. R. Stewart, to No. 7 (B) Squadron, Worthy Down. E. W. Thornewill, to No. 54 (F) Squadron, Hornchurch. P. W. Townsend, to No. 1 (F) Squadron, Tangmere. G. E. Wallace, to No. 41 (F) Squadron, Northolt.

Medical Branch

Wing Commander.—T. J. Thomas, to R.A.F. Station, Calshot; for duty as Medical Officer, 19.8.35.

Flight Lieutenant.—C. G. Harold, to Medical Training Depot, Halton, 19.8.35. G. O. Williams, to Central Medical Establishment, 21.8.35.

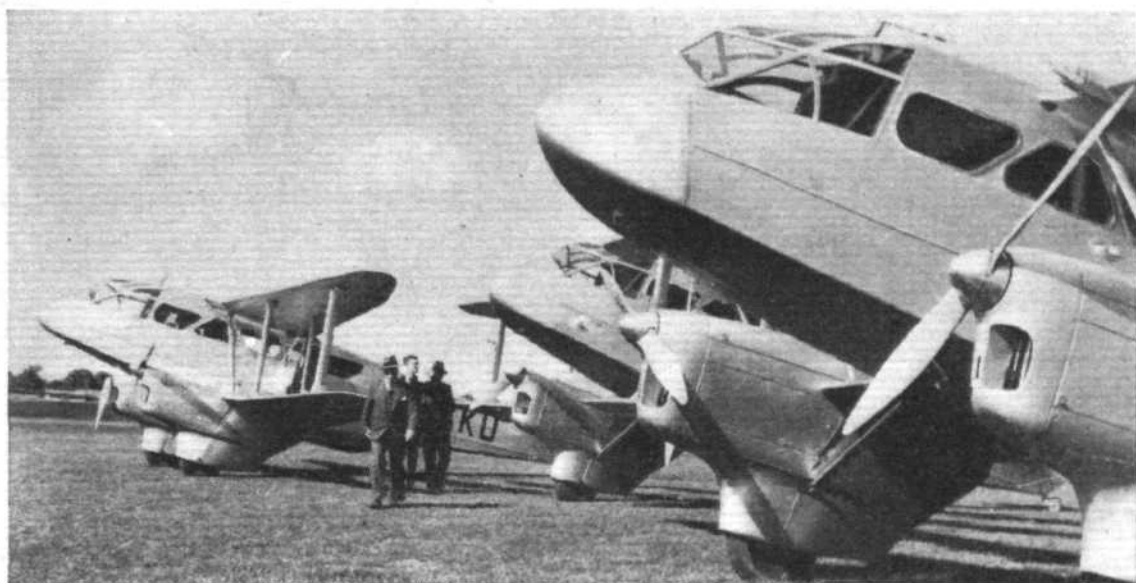
Flying Officers.—R. G. James, to R.A.F. Station, Mount Batten, 14.8.35. A. R. C. Young, to No. 3 Flying Training School, Grant-ham, 14.8.35.

Chaplains' Branch

The Reverend C. P. N. Rowband, to R.A.F. Depot, Uxbridge, for duty as Chaplain (C. of E.), 15.8.35.

COMMERCIAL AVIATION

— AIRLINES — AIRPORTS —



FOR THE NETHERLANDS INDIES: These three D.H. Rapides are to be used for aerial survey work by the Netherlands New Guinea Petroleum Company. One is to be fitted with a P.B. automatic pilot. (Flight photograph.)

THE WEEK AT CROYDON

Imperial Visibility : Press Charter Development : Contraband : They Shall Not Pass

ON one day early last week Capt. Tweedie, of Imperial Airways, reported amazing Channel visibility. He said that from 2,000 feet in mid-Channel he could see Dover, Cap Griz Nez, Cap D'Antifer, near Le Havre, and the Isle of Wight. Also, when 60 miles from them, he could plainly make out the white chalk cuts in the hills near Oxted, Surrey.

Air Dispatch, Ltd., make a bold experiment with their Paris Dawn Express for passengers. Bookings have amply justified their faith. One of the first passengers was a famous surgeon who found that this service afforded the only means of reaching Paris in time to perform an urgent operation. He is a busy man, and he found it worth while to return on the following morning's trip.

The tragic news of the fatal accident to the Queen of the Belgians caused great activity at Croydon. Inner Circle Air Lines made repeated journeys from Heston with newspaper men to link up with air departures for Switzerland and Belgium, and there were numerous special machines warming up on the tarmac awaiting newspaper men—who someone unkindly referred to as news vultures and carrion crows.

It was once said that the establishment of telephoto apparatus in most European cities would mean the end of a great deal of special charter by newspapers. Last week I saw a new development, the portable telephoto apparatus, which can be used anywhere and which transmits photographs straight to the London newspaper office.

This means that the value of the aeroplane now lies only in swift flight out to the news centre. Many a return flight has been held up by impossible weather, but to-day, if the outward journey can be made, the job is done and the return can be leisurely. Charter firms benefit, because the return flight is charged for, anyway!

Flt. Lt. Pugh is most enthusiastic about the P.B. automatic pilot which was recently fitted to the Air Dispatch Avro 642. I have heard that air line pilots of five nationalities speak enthusiastically of this particular "robot pilot."

There has recently been considerable tightening-up of Customs regulations, and now, in addition to the normal bag-

gage examination, an official checks all baggage at the exit doors and questions passengers again. It is all done quickly, quietly and courteously, and wastes no time. The result has been that some passengers were found to have undeclared silverware in their overcoat pockets! It is a pity that passports are not always so reasonably dealt with. I saw three tiny boys, whose noses scarcely topped the passport officer's desk, held up for a considerable time the other day. The poor little creatures were travelling alone in charge of the steward. I do not know if they were suspected of attempting to obtain work in this country without a Ministry of Labour permit, or if they were supposed to be dangerous or undesirable aliens.

The "gateway to Paradise" war still rages, and people have difficulty in getting to and from their jobs in "C" shed and its environs because what was formerly common land has been enclosed as a Customs area. Common sense would dictate some system of issuing passes to the firms concerned and of employing an intelligent gatekeeper who would open and shut the gates when required instead of arguing that it is somebody else's job to shut the gates, and that he is only there to open them.

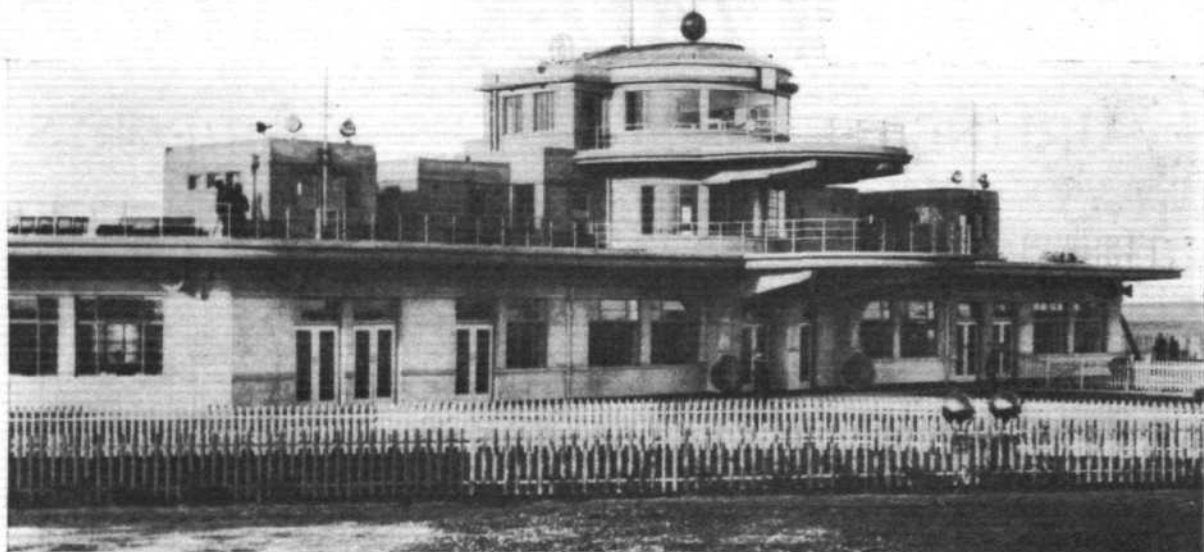
Aerial Police

According to a newspaper the Kent County Council is planning the first aerial police force at a cost of £100,000. "The view," says the newspaper, "is taken that aeroplanes will play an important part in future Kent police work, as so many aircraft pass over that county on their way to the Continent." Now what in the name of Dædalus (whose wings were of wax) are these flying constables going to do about flying aircraft? Will they pursue them to the coast and then fly back, or will they try to fly alongside and wave their arms at the pilots? They would get cheaper and better results by having a direct telephone line to the control tower at Croydon, whence any message, if worth while, could be passed to the pilot by wireless. They need not worry about criminals flying out of the country. Scotland Yard has the matter very nicely in hand, and only the other day the Croydon C.I.D. plucked a departing citizen neatly from an air liner.

A. VIATOR.

SOUTH AFRICA'S

SUPER AIRPORT



The terminal building at the new Rand airport, Germiston.

ALTHOUGH several details concerning the new Rand airport, Germiston, which was opened by H.E. the Governor-General on August 5, have already been published in *Flight*, the design of the terminal building is of sufficient interest to warrant a more thorough description.

Rand airport is some ten miles from Johannesburg and was originally initiated by Germiston itself. The actual runs are in the region of three-quarters of a mile in each direction, and floodlighting is already installed. There is a powerful beacon, and D/F radio is, of course, installed with the masts and station well outside the aerodrome.

The keynote of the design is, writes our South African correspondent, centralised control combined with quick movement of passengers. Outside the north fencing of the airport is a wide, tarred public road off which a private road is taken for 300 yards. All the hangars lie to the east of principal buildings, while to the west there is nearly half a mile of ground available for extensions. The usual approaches are exceptionally good.

The Administrative Building

Superficially, the main building, which is constructed of reinforced concrete, looks somewhat similar to a giant aeroplane. The nerve centre is the projecting block of three storeys carrying wide cantilever balconies. On the top storey is the control room, two sides and the roof of which are, practically speaking, all glass. The control officer is in command of the airport illumination and is in immediate telephone communication with the wireless station, the apron and the passengers' waiting-rooms.

The convenience of pilots is carefully studied by an interesting arrangement. To obviate the necessity for climbing to the control room pneumatic tubes are installed, and a pilot remains just inside the building at ground level before receiving

his clearance papers. At a later period it is intended to extend the system to the wireless station so as to have written records of all messages.

The west wing of the building is for administration, customs, medical and secretarial offices. The east wing contains a large restaurant, and on the ground floor of the central block is concentrated the experience gained from the defects of many other airports. Passengers enter the comfortably furnished waiting-room, where are the booking office, telephone booths, writing tables, and so on. On the walls are large illuminated air maps, and loud speakers announce departure and arrival times and other information. Incoming and outgoing passengers are separated by a miniature island. A large double-platform scale simultaneously weighs a passenger and his luggage. Outgoing passengers then descend a ramp on the south facing front of building on to a wide, curving road, and so to the apron; incoming passengers, with luggage, come along a separate entrance with its corresponding road and enter by a separate ramp. All the interior woodwork is polished teak embellished with chromium-plated fittings, and where paint is required this is carried out in tones of blue and cream. For the very original layout and unique design of the buildings, together with the modern technical equipment, Mr. Roy Makepeace, the superintendent, has been solely responsible, backed by the support of the joint committee of the Johannesburg and Germiston municipalities.

At the opening ceremony a number of privately owned machines arrived from all parts of South Africa for an arrival contest. It was estimated that more than 5,000 cars were parked, and unknown numbers of spectators arrived by other means of transport.

After the opening by the Governor-General, five machines of the South African Air Force gave a display, and there were, of course, examples of Imperial Airways' and South African Airways' machines on the aerodrome.

Lighting the Trans-India Route

Details are given in a Government communiqué of the contracts placed for lighting of the Trans-India air route, covering route beacons, floodlight beacons, boundary lights and obstruction lights.

It is estimated that the cost of the whole lighting programme is about Rs.900,000. The cost has already been sanctioned by the Legislative Assembly. The major part of the contract has been obtained by the General Electric Company, and twelve aerodromes—at Bombay, Karachi, Hyderabad, Uterlai, Badhal, Delhi, Cawnpore, Allahabad, Döbhi, Calcutta, Akyab and Rangoon—will be fully equipped. At the larger aerodromes the lighting system will be similar to that now in use at Croydon airport, consisting of boundary floodlights illuminating different runs at will, with rotating route beacons, boundary lights, illuminated wind and velocity indicators and obstruction lights.

Three New Soviet Services

THREE new air lines of considerable economic importance for the Soviet Union are being opened by the East Siberian Administration of the Civil Air Fleet. These lines will connect with the main air line and will feed Tsipikan, the centre of the Transbaikalian goldfields, the Birusinsk goldfields, and the Birusinsk mica mines. Hitherto, any communication between Moscow and these mines took from two weeks to three months.

Autogyrography

COMMERCIAL AIR HIRE, LTD., has just taken delivery of an Autogiro with which it is intended to develop a photographic department. The Autogiro is undoubtedly one of the best machines from which to take aerial photographs, and already the firm has received many enquiries in this connection.

Commercial Aviation

New Equipment for Misr-Airwork

MISR-AIRWORK is re-equipping with six machines, one of which has already been delivered. Two are D.H.86s and four are D.H. 89s, one of which is to leave for Egypt on September 3 in the hands of Capt. E. D. Cummings, Airwork's chief pilot in Iran. The remainder of the fleet will probably follow at weekly intervals, so as to complete the re-equipment before the end of September.

Flying Boats on Empire Routes

WHILST rumours, founded and unfounded, are rife concerning the flying boat equipment already ordered by Imperial Airways, one Short Calcutta has been brought back to England from the Mediterranean for training purposes.

Before next year, incidentally, Imperial Airways will start a series of experimental flights between Penang and Hong Kong, using Atalanta-class machines. Later, it is expected that flying boats will be used.

A Canine Problem

IMPERIAL AIRWAYS were recently fined £2 for the technical offence of allowing a passenger to bring dogs into the country without the necessary licence. Curiously enough, the passenger, who failed to declare them at Munich, was not fined at all. Some time ago K.L.M., in a similar case, also at the Croydon Police Court, were not fined, though their passenger was. The report said that if the dogs had been declared before leaving for Croydon they would have been more closely scrutinised. The close scrutiny of dogs is no good—what a passenger needs is an import licence from the Board of Agriculture. Dogs spotted in time and left in the freight compartment have not "landed," even though the machine has.

Air Season Tickets

AIR season tickets have long been available, but the whole matter has recently been regularised by agreement between all the big European companies as a result of the last meeting of the International Air Traffic Association—the thirty-third session, by the way—at Madrid.

There will, in future, be two species of reduced voucher books. One of them, to be known as the "Carnet de Billets," is for the individual and his or her family, and the other is for the use of members of a business house. The latter will be called a Bulk Travel Voucher Book.

In effect you buy £75 worth of air travel for £60, and it may be used on any of the big air companies' lines. You can fly to Paris by Imperial, from there to Amsterdam by K.L.M., and back to London by D.L.H. on these tickets, and a tremendous lot of bother is saved because excess luggage can be settled on these vouchers—a great boon when English people are travelling between two continental cities.

This system, now that it has been officially agreed to by all I.A.T.A. members, should be even more popular than it has been in the past.

Heston Happenings

DURING a recent week-end Heston had a full taste of Q.B.I. conditions, and United Airways pilots were alone in maintaining a 100 per cent regularity—evidently the weather over the northern routes was not quite as bad as that over the southern counties. However, it was a creditable performance and suggests that Heston's control is working well with the pilots and radio operators on the routes.

Birkett Air Service have fitted a Sperry artificial horizon and directional gyro to their Miles Merlin. The firm's pilots, of course, consistently fly in conditions of bad visibility, so the equipment will be more than valuable.

Air Commerce had the pleasure, last week, of receiving the congratulations of their chairman, Mr. Whitney Straight, over the transatlantic telephone. This was a result of the encouraging weekly report transmitted to him by cable. His study of air transport in the U.S. should lead to interesting developments in the various concerns with which he is associated. An Air Commerce machine, incidentally, recently flew a well-known film star to Le Zoute in the Monospar to sign a contract. They left Le Zoute on the return journey at 2 a.m. and were back at Heston just after 4 a.m.

British-American Air Services joy-rode 250 people in their D.H. 89 and a Leopard Moth at the Lympne international air meeting, and a further 150 on Tuesday at Wilmington, near Eastbourne, where M. Mignet was demonstrating his Pou-du-Ciel. They rounded off the evening very happily by collecting two policemen and five children and joy-riding them free of charge.

P.B. Developments

AFTER tests lasting several months, K.L.M. have acquired the selling and maintenance rights of the P.B. automatic pilot for Holland. It will probably be sold by them for about £300, and should presently be in general use on the K.L.M. machines.

One is to be fitted to one of the three D.H. Rapides ordered by the Netherlands New Guinea Petroleum Company for survey work, and which, as reported in *Flight* last week, are to be flown out this month. Another will be a standard experimental feature of a new D.H. commercial type.

From Aberdeen

SINCE it was established on May 27 this year Aberdeen Airways' Orkney service has carried five hundred passengers—including sheep dogs for the trials at Caithness! The Aberdeen-Edinburgh service is still being run daily, although North Eastern Airways' connecting service to London has been discontinued.

The fleet now consists of two Rapides, two Dragons and a Short Scion, two of which have already been fitted with Standard radio. The Aberdeen-Hull service is still in abeyance.

New Madras Aerodrome

AN aerodrome site seven miles from the Central Station has now been chosen for Madras. Orders have been placed with a European firm in India for the construction of a hangar at the new aerodrome which is expected to be ready for use in about eighteen months. Meenambakkam wireless station is five miles from the site.

In view of the proposed extension of the air mail to Colombo and the probability of an air service between Madras and the West coast, the new aerodrome will be fully equipped.

By Chance

THINGS are moving along at Southampton. Chance Bros. have received an order for equipping the airport at Eastleigh with fixed floodlights, an illuminated wind indicator, a neon beacon, and the usual obstruction lights. The equipment should be ready next month. Another building, incidentally, is being reconditioned to house casual visitors.

Three fixed floodlights are also being supplied by Chance Bros. for Gatwick, and several contracts have been received from abroad. In particular, the Indian Government is purchasing two more of the 5 kw. dioptric-type mobile floodlights, and a contract has been placed for a number of beacons on the Transcontinental route.

The company's latest floodlight consists of three units, each composed of a 1½ kw. lamp with a sphero-parabolic glass mirror to give the necessary horizontal divergence and to restrict the vertical divergence, in a mild steel or "Armco" iron housing. Silvered mirrors are fitted in front of each lamp to "collect" stray light.

After correction has been made for atmospheric absorption the candle power of the floodlight is of the order of 1,250,000. It is fitted with an obstruction light, ventilators, two lockers for keeping spare lamps, mirrors and gear, and doors at the rear. The unit is designed to be both weatherproof and accessible. In its standard form the floodlight is arranged to be 8ft. above ground level, but this, of course, can be varied to suit local conditions.



SOUVENIR. An envelope (or, as the philatelists term it, "cover") from the first air mail recently inaugurated by Misr-Airwork between Cyprus and Cairo.



Café tables in the foreground and shipping in the distance—the scene which greeted participants on arrival at Waalhaven (Rotterdam).

HOSPITALITY in HOLLAND

A Participant's Story of the Netherlands Tour : Visiting Pilots Royally Entertained

AS briefly related in *Flight* last week, some seventy aircraft took part in the recent Tour of Holland organised by the Royal Aero Club of the Netherlands. Immediately on landing at Schiphol (Amsterdam), writes a correspondent, the participants had their first impression of the perfect organisation which is always a feature of Dutch aviation. Within a period of eight minutes Customs and carnet formalities had been completed, we had been issued with the necessary maps and instructions for the tour, refuelling was under way, and we were being escorted to the club-house of the Amsterdam Aero Club for the official reception with which the tour began. As an example of the organisation one would mention that upon arrival each pilot and passenger was given a stamped postcard upon which to announce his safe arrival.

Soon after noon the foreign competitors began to arrive from all over Europe, arrivals from England including: Lt. Cdr. Stevens (U.S. Navy), Puss Moth (Gipsy III); Air Vice-Marshal Borton, Courier (Napier Rapier); Mr. J. A. Slater, Gull (Napier Javelin); Mr. Robert Perkins, M.P., D.H. Moth (Gipsy III); Mr. H. G. Selfridge, Junr., Leopard Moth (Gipsy Major); Major H. Petre, Puss Moth (Gipsy III); Mr. R. G. Presland, Puss Moth (Gipsy III); Group Capt. Leckie, B.A. Eagle (Gipsy Major); Wing Cdr. Soden, Puss Moth (Gipsy III); Mr. W. Gardener, Leopard Moth (Gipsy Major).

By three o'clock the tarmac resembled an international aero exhibition, Moths, Puss Moths, Leopard Moths, Couriers, Caudrons, Gulls, Klemms, Fairchild's, Wacos, Koolhovens, Panders, Fokkers, and Douglasses being all on view. The visitors were now escorted to motor

launches on the adjacent canal, and taken for a two-hour tour of the waterways, tea being served *en route*. This trip ended at the Hotel de l'Europe, where we were accommodated for the night. At seven the same evening we assembled once more for a cocktail party at the hotel, and were then driven to the Kennemer Golf Club for dinner, and dancing followed until the small hours.

The following morning we were driven to Schiphol once more, to find all the machines out of the hangar, and lined up on the aerodrome ready to take off. The tour itself was really a test of navigation and map reading, as each pilot was provided with a map, already marked with the routes, and was advised that on each leg of the course an unspecified number of white crosses had been set out on the ground. The test was to locate these crosses and to insert them upon the map provided. Maps were collected at the end of each day and marks given for the accuracy of location, the scale of marks being as follows: For each cross marked on its exact location, 10 marks; for each marked within a two-kilometre radius, 5



A typically varied line-up of machines at Waalhaven. In the right-hand lower corner is the new Hornet-engined Koolhoven.

marks; four-kilometre-radius, 3 marks; five-kilometre radius, 1 mark.

The first leg of the course was from Schiphol to Haamstede Aerodrome, where there was a reception by the Mayor. After a short stop we took off once more and flew inland to the new aerodrome at Twente, about ten miles from the German frontier. Here we were surprised to be greeted by the same officials as had seen us off from Haamstede, only to learn that they were being flown round the course in a K.L.M. Douglas. This machine, incidentally, also carried our baggage, which thus awaited us at each hotel. Enormous crowds had gathered to see the arrival of the tour at Twente. The entire party of visitors were entertained to lunch on the aerodrome by the Twente Aero Club, and afterwards witnessed a display of folk-dancing given by the local peasants.



A contrast at Twente—folk-dancing on the tarmac.



In the 'bus at Amsterdam: (back row, left to right) Messrs. R. Lemon and R. Presland, Group Capt. Leckie; (front row, left and right), Maj. H. Petre and Mr. R. Harben.

The next section of the flight was a "dog leg" course to avoid crossing the German frontier, and finished at the Eelde Aerodrome, headquarters of the North Netherland Aero Club, and concluded the first day's flying, which totalled 425 kilometres. Here again enormous crowds had gathered, and the Fokker and Douglas were kept busy until dark. After tea at the aerodrome we were driven about fifteen miles to the fine old university town of Groningen, and accommodated in its various hotels. In the evening the party was driven out to Paterswolde, an inland yachting centre. Following an excellent dinner at a Lakeside hotel, the president of the North Netherland Aero Club welcomed the visitors in German, French, English and Dutch, and the party was conveyed by motor launch to the Paterswolde Yacht Club.

Next morning (Saturday, August 24), the tour began about 10 a.m., and flew over Groningen to the coast, across the sea to Schiermonnikoog and along the chain of Friesian Islands. This section of the route is ideal flying country, as large areas of smooth sands are available for landing at all times. The first stop was made at De Kooy, the aerodrome headquarters of the Dutch Royal Naval Air Service. After a reception by the officers of the station we were taken by road to Huisduinen, where most of the party bathed and lunched before returning to the aerodrome for the last section of the tour. The tour concluded at Waalhaven Aerodrome, on the outskirts of Rotterdam. Here Messrs. Plesman, Koolhoven, Schmidt Crans, and many others who are well known in England were waiting to welcome us, and the Rotterdam Aero Club entertained us until it was time to leave by road for Scheveningen. Everybody stayed at the Kurhaus Hotel, where the concluding banquet of the tour was held the same evening.

During dinner Mr. Kolfe, the popular president of the Rotterdam Aero Club, announced the result of the competition. Mr. Skorzewski (Poland) and Mr. Presland (England) had tied for first place with seventy-five points out of a possible eighty, and the former was ultimately placed first after lots had been drawn in accordance with the rules. Air Vice-

Marshal Borton replied on behalf of the visiting pilots. With the exception of four enthusiasts who wished to attend the International Rally at Lympne, there were no early risers the following morning, when we returned by road to Rotterdam to attend a lunch at the Rotterdam Yacht Club before proceeding to Waalhaven to return home. As many of the visitors were going back *via* the Belgian coast, a tea party was arranged at Zoute before the return to Heston.

Thanks to the magnificent organisation and to the perfect weather which prevailed throughout the tour, the whole trip was without mishap, a remarkable achievement when one considers that no fewer than seventy aeroplanes participated.

It would be a pity to close without quoting some extracts from the Dutch Touring Club's booklet "Flying Over Holland": they are too entertaining to miss:—

"The complete absence of railway tunnels means that an aviator can, when visibility is poor and clouds are low, pin his faith to a railway line and not fear disappointment."

"There is always a spot where you can land into the wind, and, because there is a whole series of meadows one behind the other, if you do miss the one you pick on you are bound to land in the one before or the next one."

"All you have to look out for is the cattle; but, by way of compensation, these black-and-white cows, which are scattered all over the country, render valuable assistance to navigation while you are still up; for, whenever they fail to bolt at the sound of your motor you are either near an aerodrome or on one of the regular air routes."



Prince Kinsky, the well-known Austrian owner of a Leopard Moth, with Wing Cdr. Soden, snapped on one of the canal journeys.

MODELS

S.M.A.E. Scale Model Contest

ONLY four models took part in the recent S.M.A.E. scale model contests for the C.S.S.A. cup, but two of them flew so well that they saved the contest from being a "flop." The 1in. to 1ft. models had to be of the R.O.G. type, and in addition to the duration, received points for nearness to type. Mr. J. H. Collings (T.M.A.C.) had bad luck, his fine Gloster Gauntlet being damaged by a bicycle on his first attempt. Mr. G. Lambert's Comper Swift flew well, hand launched, but was hampered in rising from the ground by its small size.

The cup was won by Mr. S. R. Crow (Blackheath M.F.C.), who scored 138.6 points with a Fox Moth. Biplane models are usually difficult, but this one took off easily and flew consistently well, its best flight being 33 seconds.

Mr. R. T. S. Gillett (P.M.A.L.) entered a Leopard Moth, which, flown by Mr. Dillstone, scored 123.6. A singularly accurate and beautiful model and well finished, its clean take-offs and steady flights of from 22 to 26 seconds were much admired.

S.M.A.E. and T.M.A.C. Speed Contests

THE S.M.A.E. speed contest was put forward to August 18 to take advantage of an invitation from T.M.A.C. to use the polo ground of the Hurlingham Club. Though the ground normally has a fine surface, on this occasion a layer of fertiliser hampered take-offs somewhat. The course was one of fifty yards.

Holidays kept away several speed specialists, but Mr. H. E. White (S.M.A.E.) took part with his meteoric low-wing Hornet, and Mr. Simmonds (Blackheath M.F.C.) with a fine mid-wing.

The S.M.A.E. contest was won by Mr. I. G. Brown (T.M.A.C.) at 29.6 m.p.h. Mr. W. Worden (T.M.A.C.) was second with 25.75 m.p.h. Mr. Brown's flight also served to win the R.O.G. category of T.M.A.C. contest. Victory in the hand-launched category of T.M.A.C. contest went jointly to Mr. J. Worden and Mr. M. R. Knight, who reached 31.46 m.p.h.

T.M.A.C. Rally

ON Sunday, September 29, immediately following the close of the Model Engineer Exhibition, the 10th Group, T.M.A.C., is arranging to hold a big rally on Wimbledon Common, which all aeromodelists are invited to attend.

Mr. Ronald Jope

FLIGHT regrets to record the death, following a flying accident at Bodmin, of Mr. Ronald Jope, leader of 4th Group, T.M.A.C., Hackney Marsh. Of most engaging personality, he combined intense enthusiasm with an outstanding capacity for helping the budding aeromodelist.

NEW COMPANIES

In the notes below, for reasons of space, the "objects" of new companies are usually somewhat abbreviated.

LIGHT AIRCRAFT LTD. Private company, registered August 20. Capital, £100 in £1 shares. Objects: to manufacture aeroplanes, seaplanes, etc., and parts thereof. The first directors are not named. Solicitors: Deaton Hall and Burgin 3, Gray's Inn Place, London, W.C.1.

H. M. HOBSON (AIRCRAFT AND MOTOR) COMPONENTS LTD. Registered as a public company on August 28 with a nominal capital of £150,000 in 5s. shares. Objects: to acquire the businesses carried on by H. M. Hobson Ltd., Accuracy Works Ltd. and Floats Ltd., and to carry on the business of manufacturers, etc., of automobiles, omnibuses, cycles, aircraft, internal combustion engines and all things capable of being used therewith. First directors to be appointed by the subscribers. Solicitors: Slaughter and May, 18, Austin Friars, London, E.C.2.

FURNER AIR SERVICE LTD. Private company. Registered August 30th. Capital £600 in £1 shares. Objects: to carry on the business of aerial photography and aerial survey work. First directors: Joseph W. Jukes, 132, Steelhouse Lane, Birmingham, Jas. E. Furner.

THE LONDON AIRCRAFT DEVELOPMENT CORPORATION LTD., registered as a private company on August 31st, with a nominal capital of £100 in 5/- shares. Objects: to acquire and hold shares, stocks, debentures and securities in any company having its main business, relating to aviation or the aircraft industry; to investigate and consider all questions and matters affecting aviation. First directors to be appointed by the subscribers. Solicitors: Clifford Turner & Co., 11, Old Jewry, London, E.C.

FLYING FLEA LTD. Registered as private company on August 29th, with a nominal capital of £100 in £1 shares. Objects: to construct and deal in flying machines, and the component parts thereof; to provide and maintain hangars, aerodromes, etc. First directors to be appointed by the subscribers. Registered office: 1, Church Court, Old Jewry, London, E.C.2.



Mr. A. M. Willis' 15 c.c. petrol-driven monoplane flying at the recent power contest held by T.M.A.C.

A Northern Rally

THE Lancashire Model Aircraft Society has held an Open Competitions Day during each of the past two years, and results have proved so satisfactory that another will be held this year, on more ambitious lines. The rally will take place at the Manchester Airport, Barton, Manchester, on Sunday, September 22, starting at 12 noon.

Further details are obtainable from Competition Secretary, Mr. F. Hemsall, 81, Queen's Road, Cheadle Hulme, Cheshire.

Two charming new Skybird 1/72in. scale models—as is so often the case with models, a photograph fails to do them justice—are of the Prince of Wales' Rapide and of that famous war veteran, the B.E.2C.

Mr. W. Rigby, whose varnished cartridge-paper models are extraordinarily airworthy, strong and realistic, never wastes time before bringing out new models; his latest kit is the D.H. Hornet Moth.

Model Aircraft Supplies, Ltd., of 171, New Kent Road, London, S.E.1, have just published a new edition of their catalogue, *The Green Book*. The practical hints which it contains make it worth more than the modest fourpence charged.

AERONAUTICAL PATENT SPECIFICATIONS

(The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

- (Published August 22, 1935.)
- 35894. BENDIX AVIATION CORPORATION. Brakes (432,194).
 - 36271. THURSTON, A. P. Rotary aerofoils or rider planes associated with main supporting or control planes (432,195).
 - 4741. BOULTON & PAUL, LTD., NORTH, J. D., HUGHES, H. A., and DOE, A. Means for rotating gun turrets (432,288).
 - 6449. PETTERS, LTD., RICHARDS, S. T. A., GAUNT, V. S., and A. T. S. CO., LTD. Struts and like members for aircraft (432,443).
 - 9953. DAVIS, G. W. Toy aeroplane, seaplane, or like flying-machine propelled by the rider (432,297).
 - 11679. CARDEN, SIR J. V. Aircraft (432,301).
 - 29898. ASBOTH, O. Aircraft of the helicopter type (432,245).
 - 34848. TRICAU, G. Parachutes (432,408).
- (Published August 29, 1935.)
- 20807. EXPLORATOR AKT.-GES. Apparatus for ascertaining the direction, position and speed of vehicles, ships and aircraft (532,790).
 - 33043. NASH, A. F. Captive flares, landing lights, smoke-cloud bombs, and the like adapted for use with aeroplanes and other aircraft (432,550).
 - 2387. KAY GYROPLANES, LTD., KAY, D., and DYER, J. W. Rotating blades or wings of aircraft (432,555).
 - 2426. BLOOMER, D. M. Heating of vehicles or aircraft propelled by internal-combustion engines (432,556).
 - 13707. CHANCE BROS. & CO., LTD., and HAMPTON, W. M. Warning or signalling apparatus for the use of aviators (432,753).
 - 19009. HAWKER AIRCRAFT, LTD., and BOWER, C. Folding seats, particularly for aircraft or the like (432,662).
 - 6702. ARMSTRONG WHITWORTH AIRCRAFT, LTD., SIR W. G., SMITH, G., and BRADY, D. G. Landing-gear for aircraft (432,701).